

Desert

MARCH, 1955 35 Cents



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DESERT CALENDAR

March 1—Meeting of Northern Arizona Society of Science and Art and re-opening for summer of Museum of Northern Arizona, Flagstaff, Arizona.

March 5 — Palm Springs Museum Field Trip to East Berdoo Canyon by way of Thousand Palms from Palm Springs, California.

March 5 — Palm Springs Museum stereo-slide program on Death Valley and Joshua Tree National Monument, by Mr. Clarence Mason, Palm Springs, California

March 5-6—Sierra Club's Hike to Big Marias mountains, in Colorado Basin country, north of Blythe, California.

March 5-6 — Sierra Club, Riverside chapter, Hike to Cottonwood Springs, California.

March 6 — 1955 All-Sheriff's Posse Rodeo, Phoenix, Arizona.

March 9-13—Maricopa County Fair, Mesa Civic Center, Mesa, Arizona.

March 12 — Don's Club, Phoenix, Ariz., Travalcade to San Manual copper town and barbecue.

March 13 and 27—Desert Sun Rancher's Rodeo, Wickenburg, Arizona.

March 17-21—Phoenix Jaycee World Championship Rodeo, Phoenix, Arizona.

March 18-20—Desert Cavalcade of Imperial Valley, with two days of Outdoor Pageantry, Calexico, Calif.

March 18-20—Don's Club 3-day bus trip to Oak Creek Canyon, Flagstaff and Hopi villages, Gallup, N. M., from Phoenix, Arizona.

March 31-April 2—Jaycees Rawhide Roundup, Mesa, Arizona.

DESERT SPRING BRILLIANCE ACCENTED BY GOLDENBUSH

Outstanding on California and Arizona deserts is the conspicuous Linear-leaved Goldenbush, on the cover of this month's *Desert Magazine*. Carson City Photographer Adrian Atwater took the picture near Searchlight, Nevada, where the shrub is not so common as in neighboring states. *Haplopappus linearifolius interior*, as the Goldenbush variety is properly known, is found on mesas and slopes of the sagebrush and creosote-bush deserts generally between 2000 and 5000 feet elevation. Its bright yellow flower heads, growing in heavy masses, are quick to catch the wayfarer's eye.



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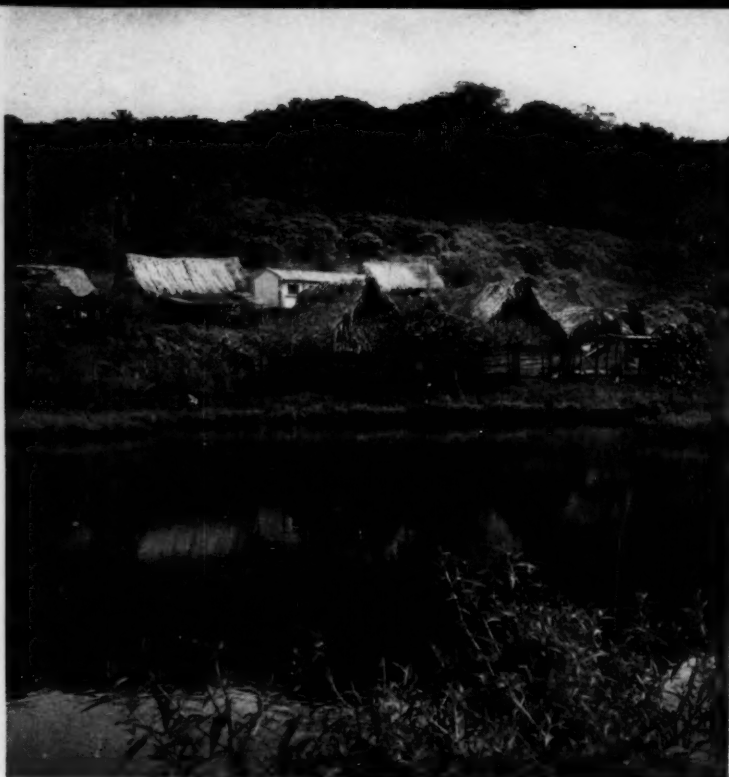
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Palm-thatched huts dot the jungle countryside in the agricultural region of Jalisco, where farmers cultivate agaves and sugar cane with crude ox-drawn plows.



Wild palms, banana and papaya plantations and canyons choked with native trees and wildflowers line the highway to the fishing village of San Blas.

\$1.22 A PERSON PER DAY . . .

Campers' Tour of Mexico

When Nell Murbarger and her parents told of their plans to take a camping trip through central Mexico, their friends were aghast. "It isn't safe," "the water is poison," "how can you bear to think of those jungle snakes," they said. But Nell and Mom and Dad went anyway—and here is the story of their glorious, worry-free 16-day tour. The roads were good, the natives friendly, the scenery spectacular and varied.

By NELL MURBARGER
Photos by the Author
Map by Norton Allen

WHEN DAD and Mother and I first began planning an auto jaunt through Central Mexico, some of our friends were a trifle dubious. At least, it wasn't hard to imagine them shaking their heads and observing that folks 74 and 68 years of age aren't exactly young; and, they could have added, "neither is Nell, nor that car she drives!"

When we expanded our plans to make it a camping trip, not only our friends but everyone who heard of the idea was definitely opposed.

"An American wouldn't dare to camp in Mexico!" we were warned by a chamber of commerce official in

Texas. People, it seemed, didn't do such things. It simply wasn't safe!

We pointed out that we had been camping in Baja California over a period of 20 years and in Sonora for 15 years, all without any trouble; but this, we were assured, proved nothing whatever.

"Those border states are more Americanized and civilized," we were told. "Central Mexico is different!"

That was all the added incentive we needed. If Central Mexico was "different," then Central Mexico was our goal!

We made the trip; and, contrary to all predictions, fell prey to neither bandits nor boa constrictors. The most difficult problem arising out of the journey, as a matter of fact, has been to convince our friends that the

the camping safe and pleasant—and the total cost of the trip, for 3 people for 16 days, was \$58.89—only \$1.22 per person per day! If you are one who prefers a sleeping bag 'neath a canopy of stars to a locked motel room with innerspring mattresses and city noise, you'll appreciate Nell's story—and the suggestions she offers for your Mexican trip.

entire cost of our 16 wonderful days south of the border was only \$58.89, or \$1.22 per day per person! Except for personal purchases, such as gifts and Kodak films, this total included our every expenditure—tourist permits, Mexican car insurance, gasoline and oil, meals, lodging, groceries, cold drinks, ferry toll, tips, one car wash job and one tire repair.

We had rambled leisurely through eight Mexican states—covering a total road distance of 2306 miles. We had explored historic old missions, browsed through native markets, visited Indian villages, hunted agaves and seashells, swam and fished in the gulf, gathered coconuts and bananas. We had enjoyed every minute—and our greatest pleasure of all (as well as our greatest saving in cost) came from the fact

that we camped out every night, cooking the sort of food we like best, as we like it to be cooked, and sleeping in our own bedrolls under the stars!

That the north central portion of Mexico is yet almost unknown to American tourists becomes more understandable when it is realized that the first all-weather auto road to link the several states of the central plateau was not opened to through traffic until May, 1950. Neither has the region been covered more than superficially by writers of Mexican travel books and guide books. Consequently, we left El Paso with little more idea of the conditions we would find to the south than if we had been starting to explore the moon!

Possibly this was why we were surprised to find the State of Chihuahua a land quite similar to Arizona. Here were long stretches of desert, scattered sparsely with creosote and catsclaw; but here, also, were rich irrigated valleys, planted to corn and cotton and rolling slopes covered with thick prairie grass standing high as a man's hips and supporting large herds of fat cattle.

Since cattle range, farming land and tight fences do not make ideal camping conditions, our first night in Chihuahua was spent 189 miles south of the border in a *parque cenador* — a roadside park. In addition to a concrete canopy for shade, the little retreat provided us with a table, benches, outdoor fireplace and a trash receptacle; and the entire place was immacu-

late. We were only a short distance from the highway, and trucks and buses and burros shuttled past our camp throughout that night; yet, of all this potentially "dangerous" throng, not one person paused to investigate a carload of American *turistas* who lay sleeping on the ground in plain view of the road.

Our second day carried us through more cotton and corn, past dozens of small villages and through the state capital of Chihuahua, center of one of the great mining districts of Mexico. Spread upon the side of a hill, a short distance south of the city, we could see the little town of Santa Eulalia, oldest mining center in northern Mexico, and site of the largest smelter in the Republic. This is a region that has been actively mined for more than four centuries.

With frequent stops to explore old adobe ruins, hunt rocks, flowers and relics, mid-afternoon of this second day found us with only 185 miles clocked on the speedometer; but when Mom spotted a little wood road winding back toward the foothills, she figured it might lead us to a good camping place and it did! A sheltered desert cove, it was dry and warm and naturally paved with clean, smooth pebbles.

Early next morning, we crossed into the State of Durango. Almost immediately the landscape began to change. We were traveling now at an elevation of around 6000 feet. The hills were

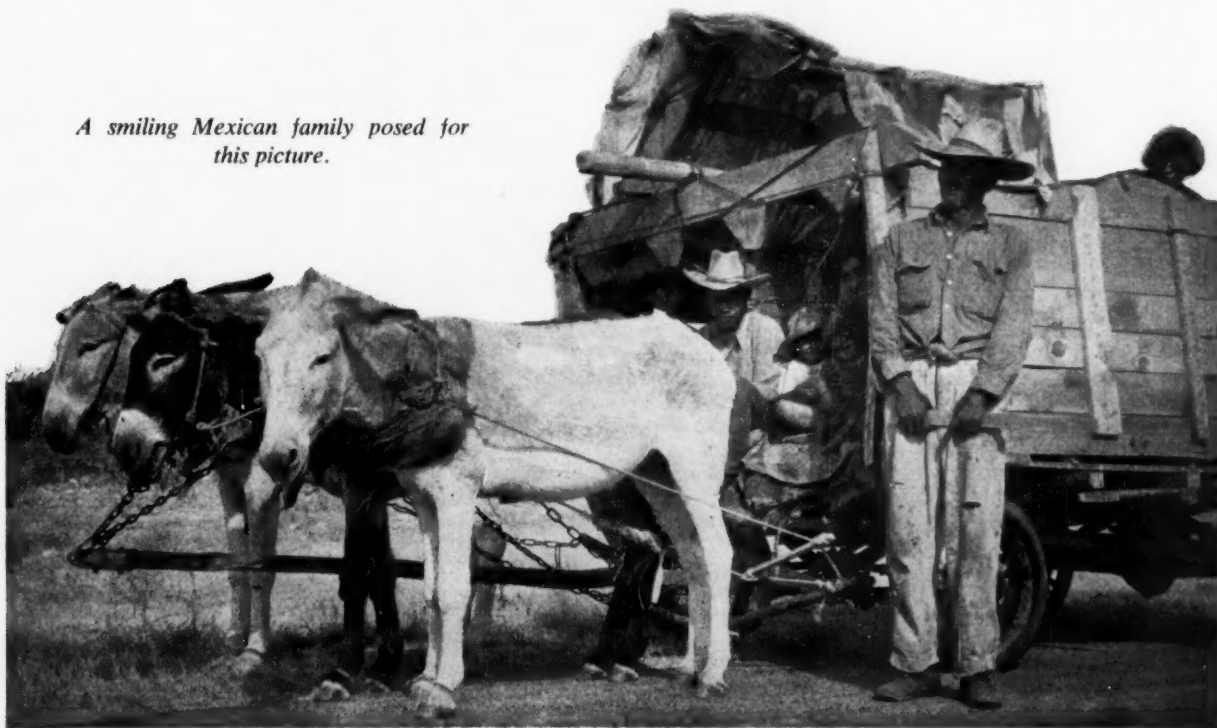
beautifully green and well wooded; many of the canyons carried streams of water, and the occasional wide rivers were shaded by great, arching trees.

Whenever our road crossed a stream or river in the vicinity of a town, we would see groups of women gathered at the water's edge in a primitive version of the American laundromat. After soaking their soiled garments in the stream, they would lay the wet pieces on smooth boulders and pound them with wooden paddles to loosen the dirt, or would rub them over crude washboards made from hollowed tree trunks. Strangely enough, when the garments were finally laid in the sun to dry, they were as sparkling clean as any laundry that ever came out of an automatic washer!

We had been passing stone fences through much of Chihuahua, but none to compare with the fences we were now seeing in Durango! Laid without mortar and beautifully trim, they stood high as a man's chest and about three feet in thickness. Leading across the hills and down through the valleys — straight as dyes — they bordered highway and rivers and encircled ranches and villages. We were told that some of these walls yet in use were built more than 200 years ago; and from their appearance, I have no doubt but they'll be standing, 200 years hence!

Situated along our road were occasional Indian pueblos, some of which must have comprised as many as 1000 inhabitants. Small, flat-roofed and rec-

A smiling Mexican family posed for this picture.





tangular, all the buildings in these villages were constructed of adobe brick and were wholly innocent of porches, lattices, glass windows, wooden doors, plastering or chimneys. Cooking was done on open fires in the yard; burros and cows roamed the streets at will, and corn and peppers were drying on elevated brush platforms, each held aloft by crooked poles. Occasionally in the yards of these homes we would glimpse small boys playing happily and noisily with only their healthy brown skin for covering.

Our camp this night was made on a grassy slope dotted with small trees and flat-lobed *Opuntia* cactuses. We were 5600 feet above sea level, 190 miles beyond our camp of the previous night, and deep in the heart of Durango!

All the next morning our road unfolded in a panorama of changing scenes. One moment we would be traveling through dry desert hills grown to tree yuccas and ocotillos and huge prickly pears laden with cactus fruit, and the next moment would find us crossing a well-grassed slope, dotted with sparkling ponds of water and grazed by huge herds of cattle. Or, we might be dipping through a green valley, where cornfields were ripening, peppers drying in the sun and great leafy trees casting their shade on a quiet river.

Noontime brought us to the city of Durango, and here we stopped for a couple of hours to explore the big city market where it is possible to buy anything from dried seaweed to live goats. We indulged in Coca-Cola at 25 cen-

tavos a bottle (two cents, American), bought half a shopping bag full of tender green peas for the equivalent of 16 cents—and for another 25 cents had that bag filled to the brim with firm, golden bananas!

Throughout Central Mexico we were to find old missions, deserted and in a state of ruin comparable to the Spanish missions of California prior to their restoration. One of the most interesting of those we explored was a fine old stone church in the little Durango town of Amado Nervo. While the building itself was badly deteriorated, the bell was still hanging in the tower; the heavy carved doors swung on massive hand-forged hinges, and the once-gilded altar was still standing amid heaps of packrat litter and the gathering dust of the years.

One of our fascinating adventures of each day was to wonder what sort of camp we would have that night. It wasn't a matter for apprehension—as any veteran camper will understand—but rather one of keen anticipation. We even made sort of a game of it. At 3 o'clock each afternoon, we would begin looking for what we considered a perfect camp, which might embody such assets as good shade, an interesting view, privacy, easy access, etc. If a camp fitting this description was not forthcoming by 3:30, we would lower our sights a trifle; and after 4 o'clock we were in the market for any clean, semi-secluded spot.

The camp we made on this fourth night in Mexico, was definitely a "three o'clock camp."

Soon after leaving the old mission at Amado Nervo, we had started up a winding grade into hills. We eventually crossed the state line, into Zacatecas, and about 200 yards before topping the Continental Divide, at 7900 feet, we drove off into a fine grove of large junipers and pinyon pines. The ground beneath the trees was layered deeply with pine needles, and beautifully free of trash and litter—as was this entire Central Mexican countryside—and the interesting view we required of "three o'clock camps" was supplied by a small, brown Indian village, spread upon the slope of the mountain, half a mile away.

Leading by our camp, and off through the trees toward the village, was a well-trodden footpath. Several times in the course of the evening, Indian woodcutters passed this way, but none ever left their trail to approach our camp, or exhibited the slightest interest in our preparations for supper and night. Whenever we made it a point to address such passers-by in Spanish, they would snap a quick glance our way, and smile and nod

Travel in Mexico

For *Desert Magazine* readers who may want to make a similar trip, the following suggestions and general information is offered:

ROAD CONDITIONS: Our route, as here described, is black - topped throughout, including the side trip to San Blas. Only one river must be crossed by ferry. There are no steep grades or sharp curves; no section of the road is so narrow that two cars cannot pass readily, and the entire road should be easily negotiable by a trailer of reasonable size. There are, however, very few established trailer parks.

GASOLINE: Supply points are never more than an hour's drive apart, generally much closer. Both regular (80 octane) and high-octane gas may be had at most stations. For regular we paid as low as 12 cents an American gallon, and never higher than 19 cents.

HOTELS AND MOTELS: Good restaurant meals may be had at about half the cost of comparable meals in the U.S. The same is true of motel and hotel accommodations. Motels are found in only the largest cities en route, but those available are new and offer good rooms at around \$3.00 a night, double. There are hotels in every town of any size.

CAMPING FACILITIES: Campsites will average about like those described in the accompanying story. At least two hours of margin before sundown should be allowed for selection of a good site. Campers in Mexico—even more so than in our own country—have an obligation to be extremely careful with fire, bury or burn all trash, and close gates behind them. We traveled 2300 miles without seeing a single "No Trespassing" sign.

FOOD AND EQUIPMENT: American canned foods may be obtained in all the larger towns and cities, at slightly higher cost; while domestic foods (both canned and fresh) are substantially lower in price than comparable goods in the U.S. We carried neither tent nor cots nor gasoline stove; but these items are optional. Mosquito netting, or a good insect repellent, is a must in the jungle and coastal areas.

WATER: Unless boiled, or otherwise treated, stream and tap water in Mexico is popularly supposed to be unfit for drinking by *norte americanos*. This may or may not be true; but there is no need for running any risk. Distilled water (bottled) may be purchased in all the larger towns; or the traveler may do as we did and treat the water with Halazone tablets. Procurable at most drugstores in the U.S., these tablets cost 35 cents for a bottle of 100—an amount sufficient to treat 12 gallons of water to the same degree of safety attained by boiling. Water treated by the tablets has no foreign taste. Ice is procurable in all the larger towns at about eight cents for 25 pounds.

MONEY: Excepting at the tourist centers of Juarez, Nogales and Guaymas, do not ask Mexican merchants to accept American money, or even Mexican currency of large denomination. The average small business house is generally unable to change any bill as large as a 50-peso note,

even though that represents but \$4.00 in American money.

CLIMATE: The annual rainy season occurs between May and October, when the coastal area around San Blas and Mazatlan receives as much as 50 inches of rainfall and the heat and humidity is almost past endurance. Best time for making the trip is between November 1 and May 1, when the temperature is near perfect.

CLOTHING: Dress as for central Arizona—light garments for daytime wear, sweaters or jackets for evening. And ladies, if you want the Mexican people to think well of you and respect you, don't wear trousers! Mexico is an old, old land whose morals are those of our grandmothers' day, and its people do not look with favor on women clad in jeans, slacks, jodhpurs, or shorts. Most particularly, shorts! Modern bathing suits and playsuits are acceptable when swimming or sunbathing on the immediate sea beach, but not in business houses or restaurants, even in the beach cities.

LANGUAGE: Except in the bilingual border cities and Guaymas, the motorist will find but relatively few persons who speak English; so a working knowledge of Spanish adds greatly to enjoyment of the trip. The Mexicans, however, are a kindly, sympathetic, people. If they can possibly figure what you want, or are trying to say, they'll do everything in their power to help you. And always remember that the one universal language is a friendly smile.

In closing this story of our Mexican Adventure, I wish to emphasize strongly that any condition or situation set forth is intended only to apply to the region immediately adjacent to Route 45, through the states of Chihuahua, Durango, Zacatecas, Aguascalientes and Jalisco; along Route 80, through Jalisco; Route 15 through Jalisco, Nayarit, Sinaloa and Sonora.

Possibly the same conditions prevail elsewhere in Mexico, possibly not—I cannot very well speak for the rest of the country when I've never been there—but along the route noted, Dad and Mother and I found camping distinctly pleasant. Although we showed only the ordinary caution we observe when camping in the United States, we did not have so much as a stick of gum stolen from our car or camp. At no time were we subjected to any embarrassment or indignity, and throughout the entire trip we encountered only friendliness and helpfulness from Mexicans and Indians alike.

It may be difficult for non-campers to understand this, but even though the cost of camping were the same, or greater, my folks and I would still prefer to travel in this manner. Aside from the greater freedom and independence that is the camper's natural legacy, we feel that every night we have camped under Mexican skies has put us closer to that land and its people, and has given us an understanding we could not have found within the security of a locked hotel room.



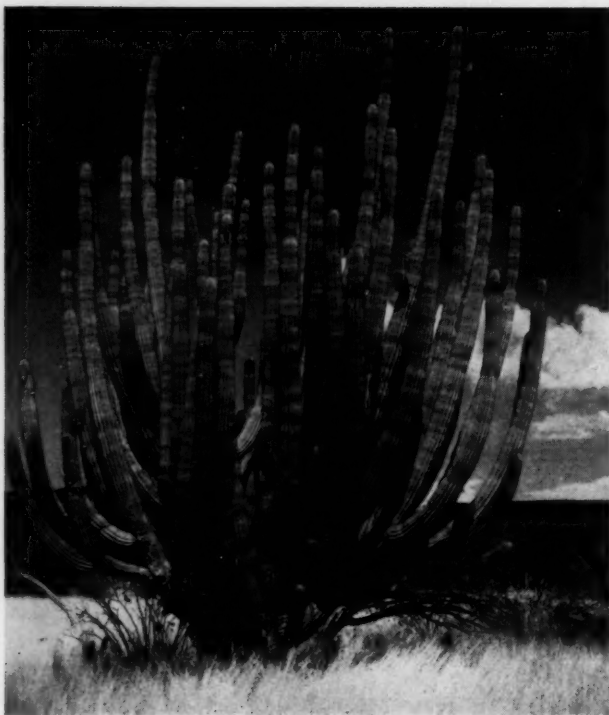
San Carlos Bay, Sonora, offers any number of fine campsites at water's edge.

quickly in a manner suggesting both surprise and pleasure. One man even swept off his wide hat and gave us a courtly bow! But, even then, he didn't come near our camp.

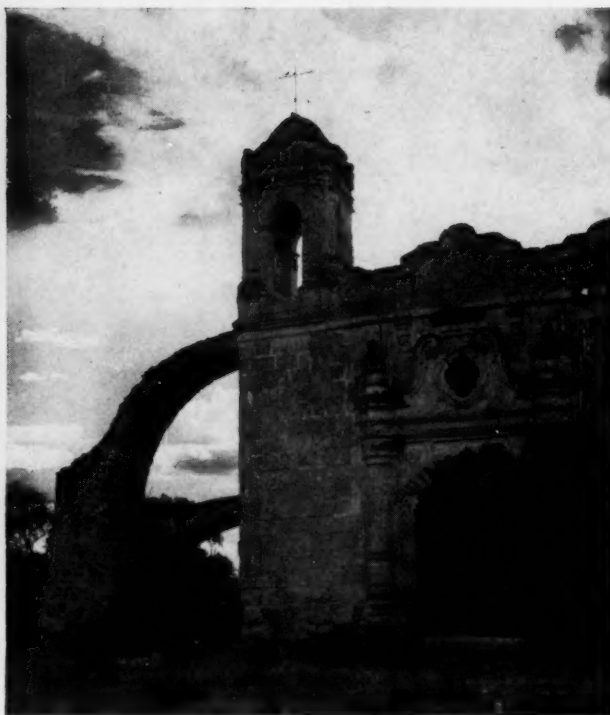
For the next 120 miles, the elevation of our road seldom dropped below 7000 feet, and once we were just under 8200 feet—the highest altitude we would encounter on the trip.

One of the thrills of the journey came to us in this state of Zacatecas, when a small white road sign set forth the fact that we were then crossing the Tropic of Cancer! While we knew that this placed us in the same latitude as Calcutta, Northern Africa, and Central Arabia, there was still little about the country that appeared tropical. About the only unusual growth we could see in the immediate vicinity was a species of gigantic yucca, the largest we noted being 40 feet in height, with a spread even greater, while the base of its furrowed trunk measured 33 feet in circumference!

Before this fourth day was completed, however, we were passing through green valleys beautifully wooded with huge wild pepper trees—exactly like the trees that border so many of our driveways in Southern California—and that night found us



Massive organ pipe cactus in Sonora, Mexico. A few days later, the campers were in the Mexican interior, in entirely different lush jungle country.



Mission ruin at Amado Nerva, State of Durango. Though the building itself is badly deteriorated, the bells, doors and altar are still intact.

camped in the State of Aguascalientes, on a grassy bench thinly wooded with acacia-like shrubs.

We got off to an early start the next morning, and even before seven o'clock, we were overtaking and passing scores of pack burros laden with every imaginable sort of freight—wood and corn fodder, pottery, squashes, cheese, homemade chairs, baskets and five-gallon cans filled with milk or water. Other burros were carrying whole families into town, several children clinging to the back of a single animal, and women of the party invariably seated sidewise on their mounts.

Other men and women, and even small children, were padding along the road on sandaled feet, many of them bearing on their heads huge baskets and bundles — laundry, garden produce, fruit, personal belongings. Still others were carrying water, Oriental fashion, in five-gallon cans slung from poles laid across their shoulders.

Aguascalientes is a small state, and it was yet early morning when we crossed the line into Jalisco. The country was much greener now and a new variety of cactus had appeared, a tall, heavy species, closely ribbed. Branches cut from these plants had been set in the ground to form fences impenetrable by even a burro or goat. The flat roofs of Northern Mexico had

been succeeded by steeply-pitched tile — better suited to the heavy rainfall of this southern district — and acres of wildflowers flanked the road.

At last, sated with scenery and wearying even of adventure, we pulled into a grove of tall eucalyptus trees and there made camp. In the peace and quiet of that grove it was hard to believe we were only ten miles from Guadalajara, a city of nearly 400,000 persons!

Along with Guadalajara, our next day's travel brought large acreages planted to agaves, one of the principal crops of Jalisco. Upon their reaching the proper state of development, the dagger-tipped leaves are trimmed from the plant and converted into cordage, and the pineapple-shaped hearts become the main component in Mexico's national drink, tequila.

About noon of this day we entered the Barrancas — a region of deep, wooded canyons, impossibly green mountainsides and the first rich flavor of the tropics. Here, for the first time, we saw steep hillsides closely planted to banana trees. Wild palms grew along the clear streams that coursed through nearly every canyon, and there were whole villages of palm-thatched huts. Sugar cane, twice as high as a man's head, was growing in pocket-sized clearings tucked away in

the mountains; and native farmers were working their land with crude plows by heavy ox teams.

Soon after crossing the state line into Nayarit, we found one of our choicest camping sites of the entire trip! Beside a clear tumbling stream of water, and under a gigantic tree of a species we had never before seen, lay a clean carpet of short green grass and wild flowers. It was difficult to imagine a better spot for unrolling a sleeping bag.

All the next forenoon we wound through a lush, green land, where banana palms and corn occupied the same fields. We spent a few hours in the old city of Tepic — where we stepped from our car into an atmosphere of three centuries ago; and 22 miles beyond Tepic, we turned off on a side road to San Blas.

Anyone who plans to duplicate our Mexico adventure and does not include this side trip to San Blas is eating his cake without the frosting!

For 30 miles we drove through a jungle of banana and papaya plantations, and through a wild tropical forest whose trees were identified to us as lignum-vitae, mahogany, ebony, brazilwood, and rosewood. Here were scores of acres closely massed with wild palms, and whole canyons tied together with lavender-colored moon-flowers and coral vines. We drove

along dim, leafy aisles, where our road had been literally carved from a wilderness of towering coquita palms. We crossed wide, sparkling rivers, and dark estuaries fringed with mangroves and inhabited by rose-colored flamingos and egrets—and at the far end of the road, we came to the little fishing town of San Blas, on the shores of the Pacific.

High on a green hill overlooking the present village, we could see the remnants of Old Town, where a fort, cathedral, and other buildings were erected by the Spaniards more than four centuries ago and now lie in a state of picturesque ruin. It was from San Blas that Father Serra launched his history-making expedition to found the missions of Alta California; and many of the original bells of our California missions were cast at a foundry in this one-time outpost of civilization.

Driving out to the sea beach, over an ancient road paved all the way with cobblestones, we enjoyed a cool swim and gathered a few seashells. And then we rambled on down the shore for another mile and set up housekeeping in a fine grove of tall coconut palms that ran down to the warm white sand of the beach.

During the night that followed, we were privileged to see a rare sight.

Shortly after supper, an electrical storm closed in on the jungle, and for several hours heat lightning flashed and snapped all around us. Thunder rumbled constantly; the offshore water grew dark and restless, and a sea wind swept in to tug fretfully at the long fronds of the coconuts. The storm, however, brought with it only a few sprinkles of rain; and, about 10 o'clock, a dead calm settled over the sea and our camp at the jungle's edge.

With this calm came a display of phosphorescence we will never forget!

The bodies carrying the phosphorus appeared like ghostly dancing balls, balls large and small, and everywhere, all at once! One ball, glowing like a Japanese lantern, climbed the trunk of a coconut palm in great lurching loops; another glowing orb hovered silently over my sleeping bag; and still others frolicked on the beach, skipped along the horizon and made merry in the leaf fronds of the palms.

Completely fascinated, we sat upright in our sleeping bags and watched the exhibition until after midnight, when it gradually abated.

Camp the next evening—after traveling through 135 miles of lush jungle—was made in a hillside clearing ringed by a mimosa-type shrub, and by cassia



The author and her father. They found a delightful camping place in a coconut grove near San Blas, Nayarit.

bushes heavily clustered with yellow flowers.

Mid-morning of the tenth day found us in the State of Sinaloa and the coastal city of Mazatlan. As it was Sunday, we laid over—devoting the day to swimming and playing on the beach. We camped that night at the north edge of town.

About noon of the next day, after making the rounds of the city markets and re-provisioning our mess boxes, we continued on our way.

Forty miles north of Mazatlan, we shipped back over the Tropic of Cancer and, toward evening, pulled into Culiacan, capital of Sinaloa and a place fantastically old! According to archeologists and historians this may be the oldest city in North America, since it is known to have been inhabited without interruption for 1400 years, and by Spanish-speaking peoples for 423 years!

The following night we were camped along a desert wash about 20 miles north of the town of Los Mochis; and before noon of the next day, we were making our way through the Yaqui Indian country of Sonora. Halting only briefly in the gulf coast city of Guaymas, we drove a few miles north of town and turned west on a graded road to San Carlos bay.

Completely landlocked, and enclosing several square miles of calm, clear

water, this place affords several fine, shady campsites at the end of the graded road. But as we were in a frame of mind to explore, we continued for another mile along a narrow, rocky road that skirted the shore, and eventually ended in a cul-de-sac at the water's edge. Here we remained for an entire day—resting, swimming, fishing, exploring the nearby hills and watching the antics of a large assortment of sea birds.

Leaving San Carlos on the morning of our 15th day in Mexico, we continued northward for 250 miles, much of that distance through a veritable desert arboretum shared by saguaro, organ pipe, senita, bisnaga, cane, choya, cereus and mamillarias. Here, too, were ocotillos, elephant trees, mesquite, palo verde, ironwood and creosote brush; and along the few streams grew cottonwoods and sycamores. Our single camp in this section was made under a large organ pipe cactus, between Hermosillo and Casa Blanca.

Early in the afternoon of the 16th day, we reached the bilingual tourist stronghold of Nogales, Sonora and, a few minutes later, had rolled across the International boundary into Arizona.

We had proved to our own satisfaction that camping in Mexico is as safe as camping in the United States—and just as richly rewarding.

ALLAN HOUSER

Apache Artist

Allan Houser looks like his famous ancestor Geronimo. And, like the old Apache war chief, he also fights for his people—a battle with paint tubes and brushes against the extinction of American Indian art.

By MARIJANE MORRIS

Photos by Bernice Gibbs Anderson

FORTY YEARS ago, Allan Houser's parents had no reason to doubt that their second child would do anything more unusual than grow up on their farm, marry an Indian girl and till the land as his father had. Little did they realize that the tribal tales they told the wide-eyed youngster would one day provide inspiration for murals, paintings and sculpture that would make their son one of the foremost Indian artists in the country.

Allan was born in Apache, Oklahoma, a full-blooded Apache and direct descendent of Geronimo. His Indian name is Haozous, "the sound of pulling roots," he explains. English-speaking friends pronounced it "Hou-

ser," and he adopted the phonetic spelling for his professional name.

There is a marked resemblance between Allan Houser and his famous ancestor, the Apache Chief Geronimo.



Part of a mural, this eagle dancer was painted in traditional Indian style by Apache Artist Allan Houser.

His first art training came as a high school student at Santa Fe Indian School. Later he studied for two years under Olle Nardmark, learning fresco (wet plaster) and secco (dry plaster) mural techniques, and took one year of advanced work with Dorothy Dunn, founder of the department of painting at the Santa Fe school.

Miss Dunn gave Allan more than instruction in painting technique and familiarity with the art tools of his white brothers. She instilled in him a deep feeling of responsibility to his race to preserve and perpetuate American Indian art.

Allan tried to explain this to me, in his careful, unhurried English. He took from his desk drawer a pair of moccasins, soft to the touch and incredibly beautiful in workmanship. "My grandmother made these moccasins for me," he said. "Today this Indian art is almost lost. Other craft, basketry, pottery making, wall paintings and blanket decorations were in danger too, not so much from extinction as from corruption by the white man's forms. As late





To some of his paintings, Allan Houser adds more realism by modeling or "rounding" figures and by painting in backgrounds. Indian artists usually paint more decoratively with flat color areas, depending upon drawing rather than shading for three-dimensional effects. Compare with "Eagle Dancers," opposite.

as 1928, pupils in government Indian schools were discouraged, sometimes even forbidden to paint Indian subjects."

Miss Dunn did much to change that. She told her young Indians about the great arts of the world. She warned them that the art of every nation declined when it imitated the art of another nation. She showed Allan and his fellow pupils how to use the white man's materials, but she urged them to draw inspiration from their own rich heritage.

Indian artists never draw from models. Allan works from memory, from keen observation of details, from a vivid imagination. His paintings sing with the Indian's love of color and his natural good taste in using it. His canvases are simply real representations of paintings he visualizes in his mind, he explains. As a composer "hears" the sonata he is writing, so Allan "sees" his picture.

Allan admits that modern Indian artists are influenced by white artists, particularly by their rules of design and measure. He himself has experimented with realistic three-dimensional backgrounds and modeled, or

"rounded" figures, as in his "Buffalo Hunt." This more lifelike painting deviates from the traditional two-dimensional Indian tradition exemplified in Houser's mural representation of the eagle dancer.

Allan Houser's accomplishments are many. Three of his murals decorate walls of the Department of Interior building in Washington, D.C., delighting visitors with their color and artistry and telling them something of the Apaches' "Love Songs," "Round Dance" and "Apache Buffalo Hunt." He also has painted murals for the Fort Sill and Riverside Indian Schools in Oklahoma and for the city of Dulce, New Mexico. In 1947 he was chosen to carve in marble a war memorial for Haskell Institute at Lawrence, Kansas. That same year he was awarded the John Simon Guggenheim scholarship for sculpturing and painting.

At last year's Intertribal Indian Ceremonials at Gallup, New Mexico, another honor came to Houser. The French Republic named him one of the recipients of their government's *Palms Academiques*, the first time

any foreign country has honored an American Indian.

The Southern Plains Museum at Anadarko, Oklahoma, contains four of Allan's dioramas, miniature scenes so cleverly constructed that it is almost impossible to tell where the three-dimensional foreground ends and the painted background begins.

One of his latest projects was the illustration of Ann Clark's *Blue Canyon Horse*, a book for children. He also illustrated two books for Edgar Wyatt, *Cochise, Apache Warrior and Statesman*, and *Geronimo, Last Apache War Chief*.

For the past three years, Allan has taught commercial art at the Inter-Mountain Indian School at Brigham City, Utah, where he makes his home with his wife and four sons. He is a modest man, insisting that his brother Albert, studying medicine at the University of Oklahoma, "has all the brains." But Allan's fame is growing on firm foundations, firmer than he will admit.

His goal in art? "I want to be the best artist I can be," Allan will answer, turning back to his easel. "There is much work to be done."



This great cliffed mountain in the Monte Cristo Mountains of southwestern Nevada is the source of beautiful gem agate and other striking cutting materials. Collecting area extends through the wash and on beyond the mountain and on its other side. Great rock pillar to left of car, left center, is landmark for the field.

Gems of Monte Cristo...

The first time Harold Weight visited the Monte Cristo Mountains of southwestern Nevada, he thought for a while he might have to spend the rest of his life in this gem hunter's paradise. His collecting sack full of beautiful agate and other gem material, he wandered for a full day and a half before he found his way out of the wash-slashed range which offers a different road in every canyon and gully. Harold's return trip last spring was a careful one, noting directions, landmarks and mileages which he passes on to Desert Magazine readers in this story.

By HAROLD O. WEIGHT

Photos by the Author

Map by Norton Allen

I thought it was impossible to become lost while driving a car up a canyon in a desert mountain range—until the Monte Cristo Mountains in southwestern Nevada trapped me. The Monte Cristos are colorful, and fascinating to anyone who hunts desert rocks, scenery or history. They form a great crescent opening on high gradual slopes on the north, but with

steep, rugged faces on the southeast and south, where they are bounded by the Great Smoky Valley, and on the southwest where they drain into Columbus Marsh.

No one knows how long ago prospecting and mining began in the Monte Cristos. The Carrie mine, southwest of Crow Springs, where lead-silver ores were under development in 1890, is

supposed to be the area's oldest workings. But when our friends Fred and Logan Gilbert came with their parents to the Carrie in the '90s, they discovered long-abandoned "Spanish digging" with good ore still on the dump. Old-timers told them that long, long before, Spaniards brought packtrains loaded with silver rock from these mountains to be worked at the camp of Candelaria, across Columbus Valley to the west.

Whenever it began, mining activity has continued almost without interruption. Innumerable monuments, prospect holes, shafts, shacks and roads tell the story of many people working over a long period. With most desert mountain ranges, roads are confined to separate washes and to their tributaries and the slopes they drain, with high steep divides usually eliminating auto-trails between adjoining canyons. But

in the Monte Cristos, roads run everywhere.

Once you are through the barrier ridges of the southern face of the Monte Cristos, low wide passes and open valleys connect one great drainage system with the next, and the washes themselves offer almost unobstructed roadbeds. Prospectors and mining men took full advantage of this favorable topography, and the abundance of trails they left can be both a blessing and a problem for rockhounds who have followed them.

My discomfiting skirmish with these roads took place in 1946 when what started out as a rockhunt with my mother and father turned into a search for the highway. Our mistake was in driving into the mountains after dark. We followed a faint trail up one of the big washes, left that wash for a cross-road, then entered and left another wash without realizing, in the darkness, that we had suddenly changed course. For the next day and a half we wandered along deceiving roads which were well marked cross-country but which vanished when they entered channels where storm waters had run. We never did relocate the route by which we had entered, and it seemed increasingly likely we would become Flying Dutchmen of the Monte Cristos, never finding a trail to lead us to pavement again. But finally I traced out a connecting route on foot and brought the car along it, reaching Highways 6



You may meet this lady at the Big Pillar, as the Weights did. But do not be alarmed by her aggressive pose. She is a harmless desert gopher snake, expressing disapproval of the invasion of her home rocks.

and 95 after dark, seven miles west of the point where we had entered the Monte Cristos. And our gas gauge indicator was actually on zero when we arrived at Coaldale, still farther west!

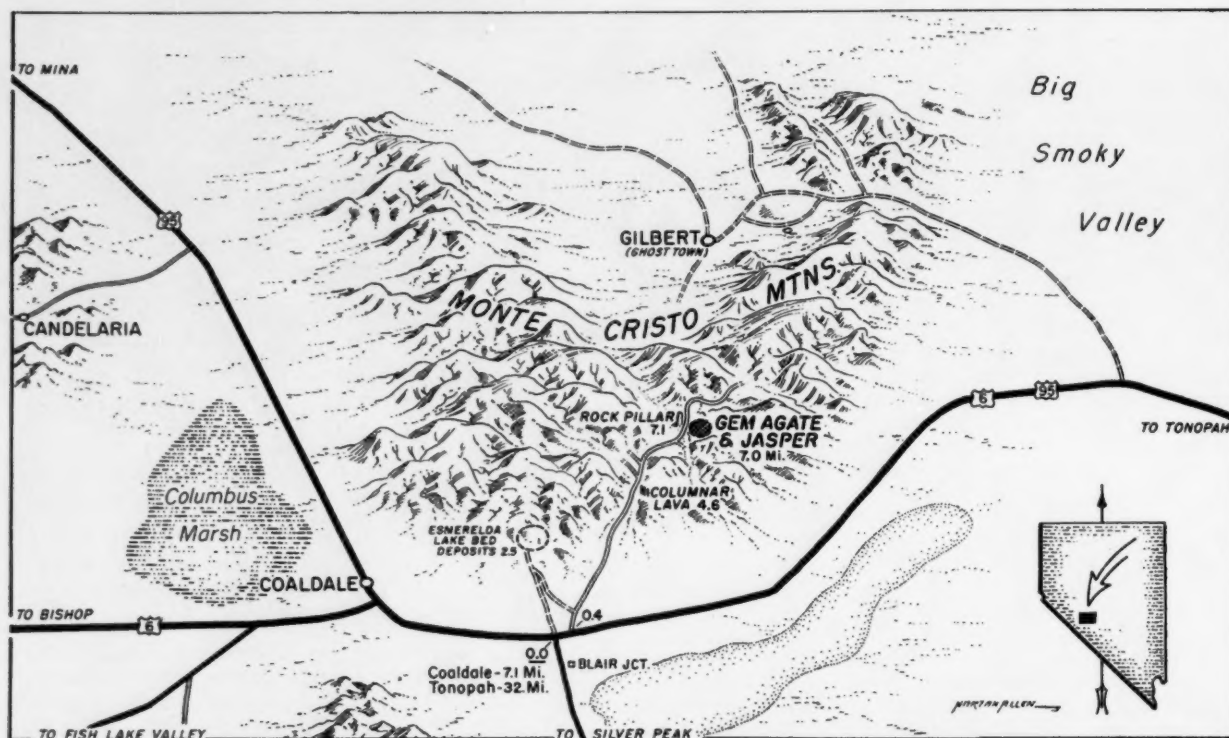
Lucile and I have hunted rocks in several sections of the Monte Cristos since then, but until this past spring I never attempted to retrace that first trail. I may have harbored a subconscious apprehension I would be trapped

again the moment I ventured through one of those canyons. But Lucile often admired the beautiful rock my parents and I had collected there, and finally suggested that we go back and get some more.

So last May we headed for the southern Monte Cristos. We followed our favorite route — beautiful, cool and with easy grades—up Owens Valley to Bishop then across Montgomery

Two landmarks for the Monte Cristo agate field: left, huge rock pillar in the wash beside the field; right, beautiful exposure of columnar lava, caused by the same type of jointing which made the Devil's Postpile National Monument, California, on the road to the agate fields.





Pass by U.S. 6 and down to the junction of 6 and 95 near Coal Dale at the edge of Columbus Marsh.

Seven and a half miles east of Coal Dale and less than half a mile beyond old Blair Junction—where the Silver Peak highway branches south—I saw a trail to the northeast which seemed to angle properly, and we followed it.

A short distance from the highway we reached a Y where the left branch seemed quite new and appeared to lead toward highly colored lake bed sediments of the Esmeralda formation exposed at the foot of the Monte Cristos to our left.

This exposure has supplied fine and interesting material for rockhounds—petrified and opalized woods, agates and bright jaspers and opalite nodules. Though worked by dealers as well as individual collectors—highly colored jasper, including some beautifully brecciated, still can be found easily. The rockhound who will camp and hunt may locate real treasures. We have collected there more than once, but had always followed the main road in—which branches directly north from Highways 6 and 95 exactly opposite the Silver Peak turnoff.

The field I wanted to relocate lay farther to the east and farther into the mountains, so we held to the right fork at the Y. About four miles from the highway I was satisfied we were retracing my earlier trip. Here, where the road followed up a broad drainage

valley, we saw black lava hills to the right, which seemed to be made up of shaped blocks and columns. This remarkable type of jointing—familiar to Westerners in Devil's Postpile National Monument in California and the Devil's Tower in Wyoming—was one landmark I had not forgotten.

Geologists say columnar jointing is relatively common in igneous rock, with Giant's Causeway in Ireland, Fingal's Cave in Scotland and the Palisades of the Hudson among widely known examples. But it will never be less than remarkable to me. We walked over to examine one particularly striking exposure. Where columns had broken out we discovered that the lava under the blackish surface coating was predominately grayish, with sometimes a tan and sometimes a green tinge. The broken short lengths of columns—natural building blocks—showed from three to six regular sides.

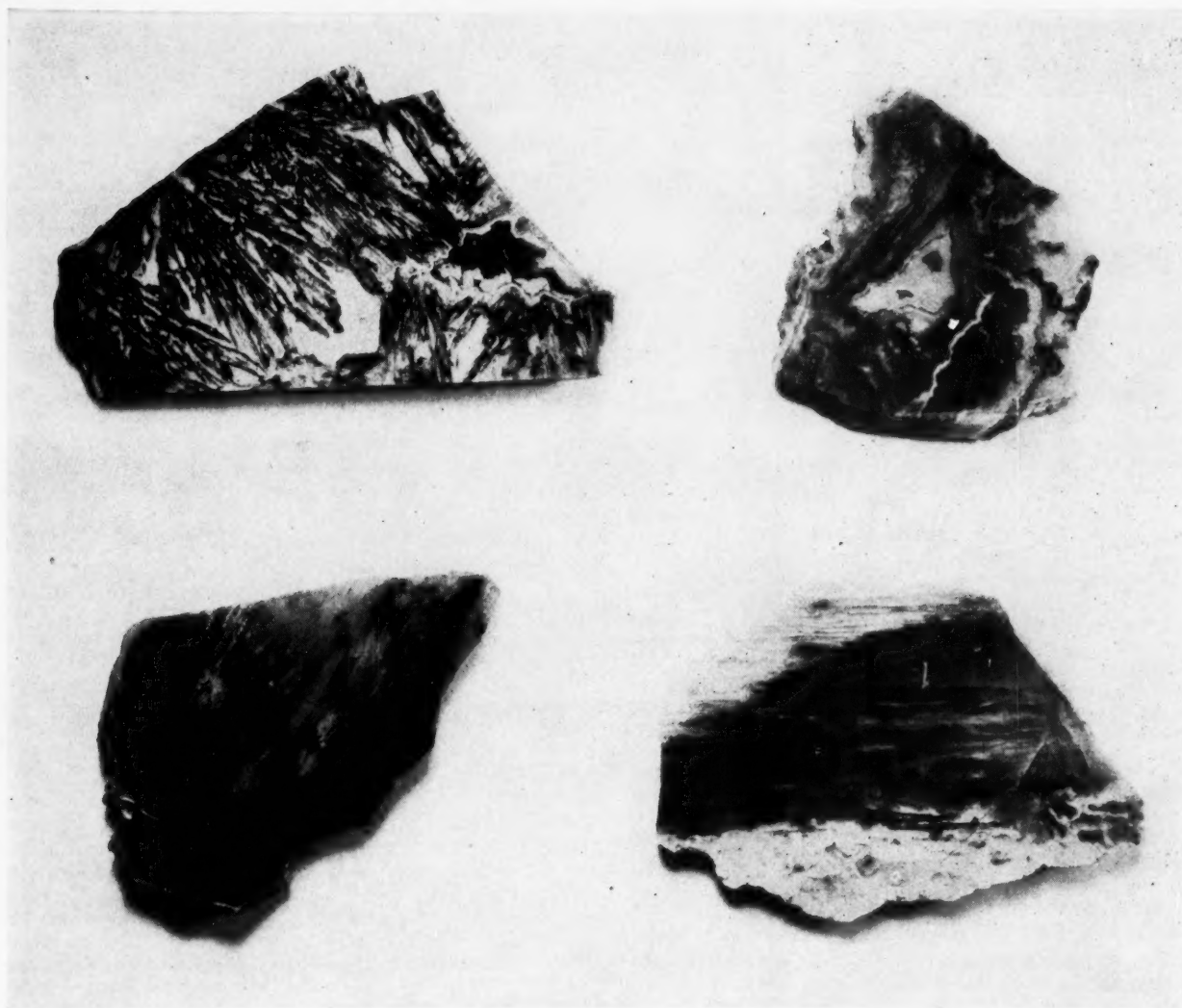
Geologists explain that certain types of magma—the original molten rock mass—have “centers of contraction” which tend to occur on the cooling surfaces, usually at regularly spaced intervals. From these centers, says Louis V. Pirsson in his physical geology text, “three cracks form and radiate outward at angles of 120 degrees. Intersection of these cracks produce a regular hexagonal pattern, and their penetration inward makes the columns.” These columns may be a few inches to several feet in diameter and

up to 200 feet or more in length. They may be arranged vertically or horizontally, or be radial or curved.

Beyond the lava-column hills, we kept right at two Ys, then the road headed easterly through a low pass. Our progress was slow. It was a fine day for hiking, and many hills and ridges and canyons demanded investigation. Beyond the pass, the road dropped into another large drainage system. Following the road around the next bend, we sighted the landmark I had been looking for—a blunt towering needle of stone which rose right from the wash.

It was a striking geological feature—and the marker for the big field in which my parents and I had collected. Quantities of distinctive Monte Cristo agate have eroded and are still eroding from the massive cliff-faced mountain across the wash to the east of the stone pillar. We pulled up beside the stone pillar, 7.1 miles from Blair Junction, and made camp.

The thought of a relaxing campfire and warm supper gave us the final spurt needed to unload our gear. In the up-wash side of the pillar we saw a little cave seemingly perfect for our fire and grill, soot in its recesses showing it had served that purpose before. Lucile, in a moment, was emptying a can of savory soup into the pan and had a kettle of water ready to heat for coffee. But we reckoned without the wind demon into whose territory we evidently had trespassed.



Slices of gemstone from the Monte Cristo field: upper left (three by one and three-quarter inches), black needle design in bluish-white chalcedony; upper right, a fortification "lake" surrounded by red agate, edged with black and white agate and double-spotted with red opalite; lower left, colorful translucent agate with black, bluish, golden yellow and red; lower right, typical "Monte Cristo agate," streaked dark red and translucent white and topped with sub-translucent mossy white.

By the time I had a fire lighted, part of our wood had been whirled down the wash. The ragged flames were blown wildly to the top of the cave. Cups and bowls flew past us from the tail gate of the car while Lucile dove through the wind for rocks big enough to weight down lids and I tried to corral the fire and keep it under the pans by building rock breastworks around the grill.

Lucile gave up thought of an outdoor meal. Rescuing equipment and prying the car door open, she tried to set up a supper "table" in the front seat. The flighty flames were not against the pans often enough to be effective, but finally steam puffed from under the rock-secured lids. A pre-

carious kettle-carrying trip to the car ended our struggles with the Wind Demon of Monte Cristo. The car continued to rock with successive blasts, then suddenly as it had come the wind left us.

Morning was calm and pleasant. We were taking pictures with the first light, while the long early shadows gave dimension to the rock planes. Returning to the pillar, we unexpectedly met the lady owner of our campsite. At least, Laurence M. Klauber, long curator of Reptiles for the Zoological Society of San Diego, identified the photo I sent as that of a lady. There was no doubt that she felt she owned the place.

She was heading for a shady hollow under my camera case when we met.

Looping her body back into fighting position, she swelled her head to an ugly triangular shape and dared us to start anything.

I jumped to the conclusion—and I mean jumped—that we were entertaining a rattlesnake. But there was no warning buzz, and cautious closer examination revealed no buzzer. Then I recognized her as a desert gopher snake, and harmless. She posed aggressively for a portrait, then, as we drew back, slid gracefully down the vertical rock. Half way she lost her footing—or whatever snakes have instead—and plumped on the ground. Here she expelled her breath with an indignant snort and slipped under another boulder.

That odd swelling of the head still bothered me, and when I developed her picture I sent a copy to Mr. Klauber. He wrote: "I should say your snake was without question a desert gopher snake, *Pituophis catenifer deserticola*, of the subspecies to be expected in the Monte Cristo Mountains. Everything points to this conclusion—the blotch pattern, strongly keeled scales and scales of the head. It seems to have the black longitudinal stripe on the neck with inserted yellow spots characteristic of this particular subspecies. *P. c. deserticola* is black and yellow or orange.

"The striking pose and especially the laterally spread posterior part of the head are seen rather frequently in an angry threatening gopher snake. Often, but not invariably, they hiss and vibrate their tails. But in California it's easy to distinguish dangerous snakes from harmless — no rattles, no worry. Head shape isn't a good criterion anywhere. Many harmless snakes have triangular heads, widening toward the neck, and some of the worst of venomous snakes in other countries have heads much like our racers and king snakes. Your Nevada friend was a lady, to judge by the shape of her tail."

I pass along Mr. Klauber's information both for its interest and because I would hate to have our Monte Cristo lady friend liquidated because some excited rockhound took her defensive stance too seriously. She was there first—and this is to record her prior claim to those diggings.

We hiked back down the wash to the collecting field. Some agate can be found to and above the pillar, but it is thick on the lower slopes right to the edge of the wash a few hundred yards south and east. Most has weathered out in big chunks to small pieces, but some was still imbedded in great boulders fallen from the cliffs above. The largest part of the gem rock is what we think of as typical Monte Cristo agate: reds, blacks and sometimes yellows in clear or cloudy or patterned chalcedony.

About a tenth of a mile southward from the pillar, a small side wash cuts to the east. Hiking along it, we found ourselves among low slopes of dull gold and a sort of metallic green. Vein material was weathering from ashy patches in the gold. What most caught our eye was a cutting material in which rather coarse needles — sometimes black, sometimes white or rose-pink or red — penetrated in all directions through matrixes of similar colors, though usually of one contrasting with the needles. Some needles formed a

MONTA CRISTO LOG

- 0.0 Blair Junction (also point where paved Silver Peak Highway branches south). Keep ahead, east, on U.S. 6 and 95.
- 0.4 Leave paved highway for unimproved left branch, angling northeast.
- 0.8 Y. Keep right.
- 4.5 Old mine trail branches right. Keep straight ahead.
- 4.6 Fine exposure of columnar jointing in lava, right. Faint branch into canyon, left. Keep ahead on main road.
- 5.3 Well-marked left branch. Keep right, on main road.
- 6.6 Old right branch, keep left.
- 6.7 Reach big wash. Follow main road up wash, northerly.
- 7.0 Little wash, right, leads into collecting area. Keep ahead up main wash to
- 7.1 Big rock pillar.

criss-cross pattern, like a modern textile design. In other pieces the black would "feather" into the agate. Veins with delicate parallel lines or scallops were prim and old fashioned enough to remind us of calico prints. A little varicolored opalite was included in some agate patterns.

Any of this Monte Cristo material, for lapidary use, must be selected with care. It has a tendency to occur in irregular blobs or masses of good with patches which will not polish or which have pinholes. Other rockhounds had been in this field recently, and we saw evidence of their efforts to hammer out the most solid and colorful pieces. But this method is not always successful, for the agate fractures very easily. Even without hammering, cracks will be found in some of it, though in cases sealed with clear chalcedony. But the good pieces—and there are plenty of them—are beautiful, equaling almost any agate gem material found in desert fields.

With a fine assortment of gem material collected, we still had most of the day left. Loading up, we drove back down the main wash less than .3 of a mile, where the road first entered it from the southwest. From there we struck out to the south and then east. On higher ground I found the road I thought should be there, still in good condition though it had vanished completely in the big wash, and we were off for a tour of the Monte Cristos.

For 30 miles we wandered through the amazing interior of those mountains—and there were still roads to follow. We found constant allurements

in cragged, vivid volcanic peaks and the delicious pastels of softly rounded tuffs and clays. Then there were the forlorn remnants of once-hopeful mining enterprises, especially plentiful. Old wooden and sheetmetal shacks falling or fallen apart, shafts and tunnels and trenches which told of great expenditures of effort, and countless monuments marking claims upon which no work had ever been done.

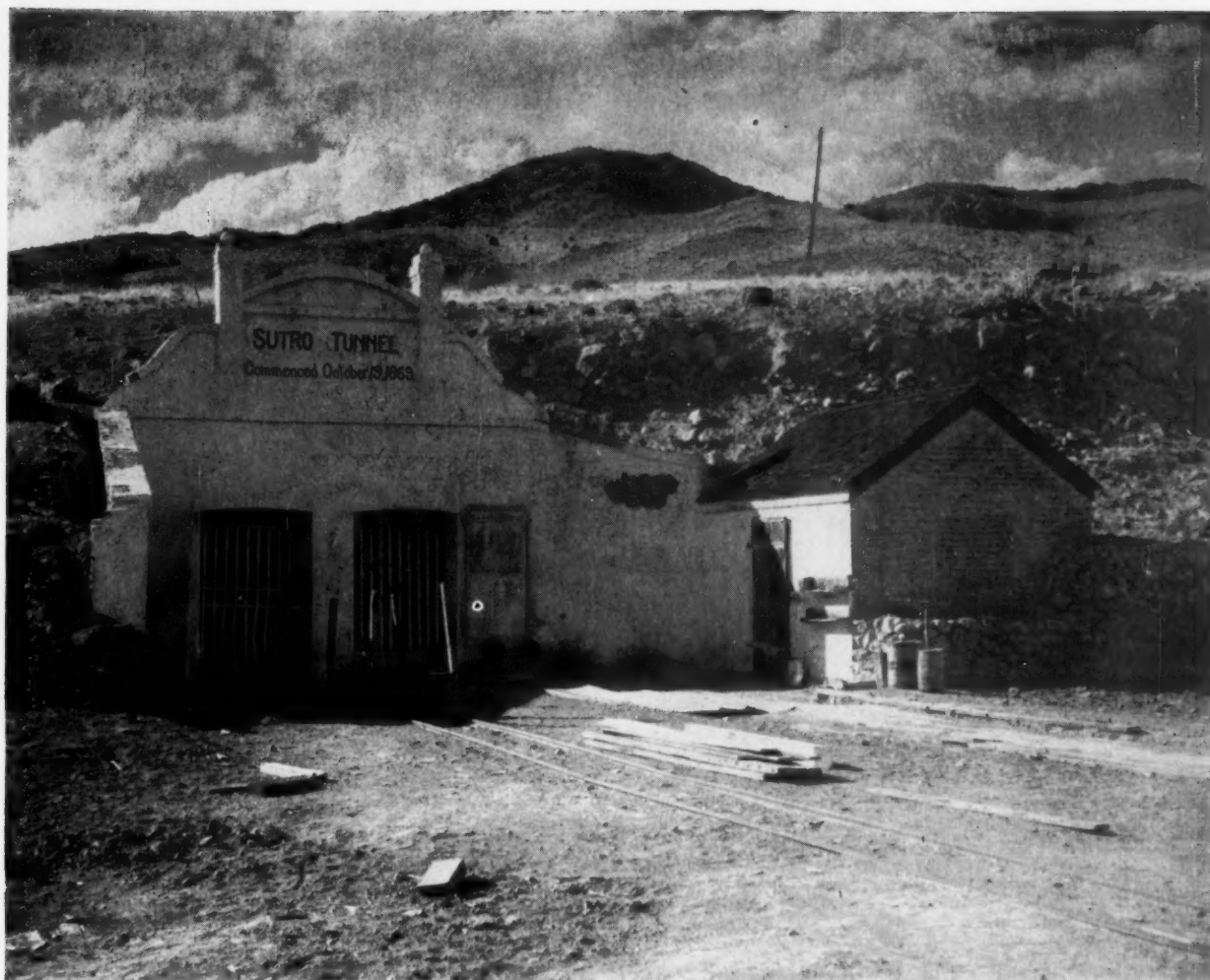
The big excitement in the Monte Cristos came after the Gilbert brothers struck rich gold on their Last Chance claim in 1924, and the camp of Gilbert boomed (*Desert*, May '51). In the rush that followed, almost every square yard of the range must have been staked out. Most of the activity in the part where we were wandering had taken place in the South Gilbert district.

"It started soon after we made our strike," the Gilbert brothers had told us. "Two promoters—Bill Gray and January Jones—got hold of the old Hardscrabble mine down there. They rechristened it the Original Gilbert. Of course it wasn't! But it was a good name for promotion. Never took two-bits worth of gold out of it, but they sold \$50,000 worth of stock."

Today's rockhounds get better returns out of the southern Monte Cristos. We found cutting rock and interesting leads at several places where we stopped. One particular association of rocks became quite familiar: worn chunks of Monte Cristo agate, various forms of chalcedony and small pieces of wonderstone with fine red and yellow-and-brown patterns, much of which would cut. At one place a piece of beautifully colored wood was found with this association which we saw most often on flat areas and low ridges bordering many Monte Cristo washes. Apparently it has been assembled there by water action.

It is anybody's guess what the next rockhound might find on these slopes and ridges, for the material apparently has weathered from many different strata. If there is any question of your car's ability to nose its way into unfamiliar territory, it might be better to hike to these alluvial fields. Just park where you first reach Big Pillar Wash — about 6.8 miles from Blair Junction and .3 hike from the pillar, for example, and hike across the wash onto the slope to the southeast, or follow the big wash itself down, keeping on its right edge.

The Monte Cristos are a fascinating range, and I expect we'll make lots of trips back to them. But they've got a lot of tricks up their canyons. I don't quite trust them after dark.



Entrance to the tunnel which cost \$5,000,000 and required 13 years to complete.

Adolph Sutro's Coyote Hole

By RICHARD H. DILLON

Photo by Neal Harlow

WE WERE DRIVING through Nevada last spring when I noticed the legend, "Sutro Tunnel," on a guide book map. From my job as librarian at Sutro Library, San Francisco, I knew about Adolph Sutro, the engineer-politician-philanthropist whose collection the library housed. It wasn't far out of our way, and my interest was piqued, so we decided to visit this example of the engineering skill of more than eight decades ago, this "coyote hole" as Sutro's enemies called it.

I had hoped we could reach the tunnel entrance from Silver City, but this is not possible by car, although the southern lateral of the tunnel's

Adolph Sutro was a visionary — but he was a fighter, too. Here is the story of his dogged 13-year fight against tremendous odds to promote and build Sutro Tunnel in Nevada, an amazing bore which served the double purpose of draining Comstock mines of lower-level water and of transporting ore on its twin-railed track.

main shaft—the Alta Shaft—does end here. We drove on to Dayton and seven miles past, towards Fallon on Highway 50.

We followed a good dirt road marked by a wooden, arrow-shaped sign pointing the way to the site of

Sutro, Nevada. Here, at the mouth of the tunnel, a few wooden shacks stand in an oasis of cottonwoods beside a long dike of mine tailings. The buildings were posted, but our guide book assured us that visitors were welcome at the tunnel, and we disregarded the "Keep Out" signs.

Sutro townsite is almost a ghost town. One or two families may still live in the buildings which remain where Sutro ventured to prophesy that "a large city will spring into existence. Five years hence," he wrote in 1873, "we shall see perhaps 50,000 people gathered near its mouth."

The old tunnel entrance had been freshly painted white, and an ore car waited on the rails leading in. The entrance is barred with a padlocked

grill-gate to prohibit interior investigation.

There is still a trickle of water in the ditch where, in 1880, almost 3,500,000 gallons a day were discharged. Some Nevadans of the 1860s proposed a dam at the tunnel mouth, but Sutro did not think it would be profitable. He did plan to use water-power from the 155-foot fall from the tunnel to the Carson, however.

The rich ores of the Comstock Lode during the Civil War were being drowned by an excess of water from springs and water pockets. Work had to be suspended in some mines and in others mining was slowed by accidents and the slow and expensive pumping. One mine alone in 1871 was pumping out 781 tons of water every day of the year in this outwardly dry country.

On February 4, 1865, the immigrant cigar-dealer and mining engineer from Aix-la-Chapelle had his Sutro Tunnel Company incorporated by the Nevada Legislature. He had the exclusive right for 50 years to construct an adit to intersect the Comstock Lode at 1600 feet, near the Savage shaft, from a point more than three miles away. The tunnel was to be wide enough for a double line of railway; thus, not only would it drain the mines of flooding water, but it would facilitate the transportation of ore to the mills along the Carson for reduction.

Sutro secured contracts from 20 of the mining companies, binding them to an agreement to pay two dollars a ton for all ore removed through the tunnel. There was no charge for the draining off of water. Sutro, for his part, promised to begin work by August 1, 1867, and to spend at least \$400,000 a year on the tunnel work. He had difficulties raising money, and soon he discovered that his project was being fought by powerful William Sharon and the Bank of California and, eventually, by mining's Big Four, Mackey, Fair, Flood and O'Brien.

Adolph Sutro was a visionary, but he was a fighter, too. He appealed to the miners with posters and speeches, telling them they spent \$5 a month apiece on whiskey and asking them to put it into the Sutro Tunnel instead. He went abroad for money, got it in France only to have the impending Franco-Prussian War snatch it away. His appeals to the Vanderbilts and Astors were in vain.

All the while, Sharon and his cohorts were urging the mining companies to repudiate their contracts, since Sutro had not begun work when he promised (1867) and had not done the required work per year since he

had broken the first ground on October 19, 1869.

Sutro appealed to Congress in 1873 for federal aid for his project and then, suddenly, a London bank pledged \$2,500,000 and the Tunnel was saved. Progress had been slow in excavation, but in 1874 Burleigh drills began to speed it up, and on July 8, 1878, the German immigrant with the mutton-chop whiskers, stripped to the waist, fired the blast which broke the Sutro Tunnel into the first Comstock mining shaft. It had taken 13 years of hard work and \$5,000,000 to build and, tragically, it was too late. The Comstock Lode had already passed its peak.

Nevertheless, the cost of the Sutro

Tunnel was more than repaid by ore royalties from Virginia City mines. The Tunnel is 20,489 feet long and 13 feet wide. It is nine feet five inches high.

Adolph Sutro has many monuments to his memory, chiefly in San Francisco, including Sutro Forest, Sutro Baths, Sutro Heights (now a city park) and the research collection, the Sutro Library, now part of the California State Library. Probably least-known today, and certainly least-visited is Sutro Tunnel in Nevada—the remarkable accomplishment of an imaginative, fighting engineer who wasn't afraid to buck William Sharon and the silver barons of the Comstock Lode.

PRIZE ANNOUNCEMENT

For True Desert Experiences

Desert Magazine's editors have announced another of the popular Life-on-the-Desert contests, open to all readers of *Desert* who have had some true, unique experience in the desert Southwest.

Anyone can enter the 1955 contest—professional or not. Do not let the feeling that you are not good enough prevent you from unfolding that experience that you will long remember. The editors only require that it be true—no yarns or tall tales or heresay will qualify.

An award of \$25.00 will be made by *Desert* to the best story. Each other contestant whose manuscript is accepted for publication will receive a \$15.00 awards. Stories should be 1200 to 1500 words in length and must be postmarked not later than midnight, March 20, 1955. Entries will be judged on the basis of story content and writing style.

What types of subjects can be covered? Perhaps it would be the reason you moved your home to the desert, perhaps an unusual character you have met far from civilization, or an Indian story of valor and progress, a rockhunting or prospecting experience. A lesson on desert wildlife, plants, or desert living could be found in many true experiences. The list is as endless as the number of persons living and traveling on the desert.

Those who plan to submit manuscripts should carefully observe the following rules:

1. All manuscripts must be typewritten, double-spaced, on one side of the page only.
2. Entries should be addressed to Editor, *Desert Magazine*, Palm Desert, California, and be postmarked not later than midnight, March 20, 1955, to qualify for the awards.
3. If good sharp 5x7 or larger pictures are available, an extra \$3.00 will be paid for each photograph accepted. Pictures are not essential, however.
4. Writers must be prepared to supply information as to the authenticity of their stories. Only true experiences are wanted.
5. All stories must be essentially of the desert, and the scene is limited to Arizona, Nevada, Utah, New Mexico, and the desert area of California.
6. True names of those involved must be given, although with the knowledge of the judges, fictitious names may be substituted in special cases where there is reflection on personal character.
7. If the story has appeared previously in print, this fact and the time and name of the medium in which it appeared should be given.
8. All readers of *Desert Magazine* are invited to submit manuscripts. Unaccepted manuscripts will be returned if accompanied by return postage.

ON DESERT TRAILS WITH A NATURALIST - XII



The author and George Clapp in front of Clapp's dugout home.



Another of the cave dwellings at Darwin, Death Valley, California.

Where Burros Collect the Garbage and No One Pays Rent

While a balky motor was being repaired, Edmund Jaeger and his companions spent an unscheduled four days in the old mining camp at Darwin, California. That was 20 years ago—and here is a glimpse of a prospectors' community on the desert where there were no landlords, no rent nor street assessments, and stray burros, cats and coyotes comprised the garbage patrol.

By EDMUND C. JAEGER, D.Sc.

Curator of Plants, Riverside Municipal Museum

IN 1926, H. W. Eichbaum, who was just opening his hotel at Stovepipe Wells in Death Valley, completed the first road for automobiles entering the Valley from the west. It was an unpaved but graded toll road following the course of an old Indian trail leading from the eastern end of Darwin Wash up through a gap in the Panamint Mountains. I drove over that road soon after its completion with two youthful companions, Phillip, now Dr. Phillip Savage of San Bernardino, and Christian Sarau, now an attorney in Riverside, California.

One day in late May we left Stovepipe Wells where we had stopped to buy gasoline at 65 cents a gallon. While

the gas tank was being filled, I had met an old Negro who was complaining about the dryness, heat, and utter loneliness of the place.

"Well, how do you happen to be here," I asked. To which I received the rather ludicrous and doleful reply, "Mister, I don't know. I guess, I guess, I's just an accident here. Boss, I wish I could get out of this place right quick."

I drove my car slowly over the steep, rocky road. Even though it was "improved," it was no route for the tenderfoot motorist. When we came to the top of Towne's Pass (altitude 5005 feet) in the Panamint Mountains, an ominous rattle suddenly developed

in the motor. I stopped immediately. Evidently the front bearing had cracked. There was seemingly nothing to do but wait for help.

It frightened us when we realized it might be days before anyone came along. We were 60 miles from Lone Pine, and no help was to be had at that time of the year in nearby Death Valley. Great was our joy when about midnight we heard a distant noise and saw the lights of an automobile approaching from the west. Jumping from our sleeping bags, my companions and I hailed the driver of the car.

"What's up?" he asked. After telling him of our plight, he suggested that perhaps we could safely get the car into the small village of Darwin to the west by coasting down the long steep grade ahead, using the brakes to slacken our speed. "Put the engine in low gear when you reach Panamint Valley," he said, "and you may be able to go up-grade to Darwin. But you'd better get out of here soon, for it's getting hot now and after tomorrow there will be no help for you.

Mine is probably the last car over this road until late September."

We soon decided we were not going to risk going down the narrow and precipitous road in the dark of night. When we glimpsed the first bit of morning light, we were up and soon were inching our auto down the tortuous grade. When the car gained too much speed we just ran it into the steep roadside embankment, then started all over again.

Without benefit of motor and only by the use of grit, gravity and fast deteriorating brakes, we got to the level floor of Panamint Valley by mid-morning. With a sickly thudding engine, we limped across the hot valley up Darwin Wash and over the steep meandering grade into Darwin mining village.

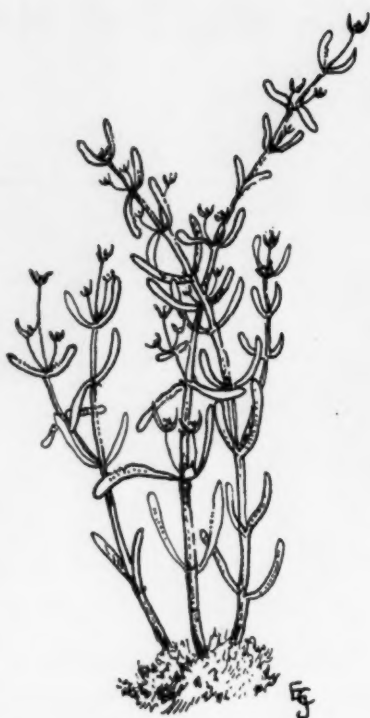
There we eagerly sought out the young Dane who recently had opened a garage. All the tools he possessed he was able to carry in a big canvas satchel, yet he promised cheerfully to get us going. When I wondered when, he replied, "Oh, at least about four days from now! I guess I can send a man to Lone Pine and he will look over the old automobile junk yard and see if he can't find the parts we need." It didn't sound encouraging.

We settled down for the half-week stay in dead and unattractive Darwin. To the two students with me it looked like a very dreary wait. But soon they found that a bit of inquisitiveness and an appetite for knowledge could make a fairyland out of even an almost deserted, unkempt village and its surrounding desert wasteland.

The little town was that day in a hub-bub of excitement, for Bad-water Bessie, "carrying a shootin'-iron with plenty of lead in it" had threatened to come in and "settle the hash and square up" with a group of miners whom she had heard were spreading scandalous words concerning her honesty and morals. "When Bessie gets in town she'll sure fix 'em," said the proprietor of the restaurant where I was eating lunch. "She don't like folks ruinin' her good reputation."

Across the way from the eating-house stood the pool hall, often called the "old saloon." Through its wide open door could be seen half a dozen shabbily dressed men lined up at a counter, some talking, others standing with bottles in hand. Four or five more were playing cards at a big round table. Toward the back end of the building was a side door on whose threshold a big black shaggy-haired dog lay sleeping.

Suddenly the restaurant keeper cried out: "Here she comes, right now. That woman sure must have put her car



The rare desert plant, Rixford Rock-wort. Edmund Jaeger had known of this plant, but had never seen it until George Clapp produced a dried sample from a dusty shelf in his dugout home. The Paiute Indians used fibers from this plant to staunch the flow of blood from wounds.

over the road to get here so soon. I really didn't expect she'd make it until tomorrow." And sure enough, up pulled the auto with Bad-water Bessie at the wheel. "Not a bad looking old gal is she, even if her hair is gray and she's got a wrinkle or two?" said Restaurateur Brown. Getting out of the car, she walked briskly into the cafe for a cup of coffee and a spirited chat. From there she spied across the way the saloon-keeper and some of his hardened customers. Her dander rose.

Said Bessie: "Now's the time to scare 'em a-plenty. I'll see whose goin' to be sayin' nasty things about a decent old lady prospector!" Out of the door she went. Luckily for them, the men whom she was accusing of reckless gossip had seen her approach and began pouring out through the inn's little side door and around the back end. By the time their female adversary got well inside the door, they had scattered to the four winds and out of sight. Bad-water Bessie had to satisfy herself with the knowledge that she had at least given the men a good scare.

This excitement over, I walked down the street wondering what would hap-

pen next. "Why don't you go down to see our old troglodytes? We've sure got 'em here," said a rather ragged but refined bald headed old gentleman I met near the garage.

"Troglodytes: that's a strange word to hear in a town like Darwin," I replied. "That's a word from the Greek language meaning cave-dwellers, isn't it?"

"It sure is, you've guessed it right. That's what I call those old fellows that live in those smoky-walled dug-outs down below town. Troglodytes, yes, that's a word we learned in school years ago when our old Scotch school-master talked to us about the old cave dwellers of southern France. Yes, mister, you'd better go and see our troglodytes. They'll have lots to show and more to tell you."

It sounded intriguing. So down the road the lads and I walked, then over into a small gully. Sure enough, there were more than half a dozen men living in caves. We'd suspected the site of their dwelling places even before we actually saw the doors, for blue wisps of smoke arose, like steam from fumeroles, from short lengths of stove pipe protruding from the ground near the edge of the embankment. We counted ten of the caverns which had been excavated from the softer rock that lay beneath a thick water-imperious projecting ledge of caliche, a peculiar hard whitish rock often found in limestone desert wastes. Six of the caves were occupied. Only one had a window; the rest received what little light they got through open doors.

Knocking at several of the unlocked doors we were invited in by the occupants to "look around and see what you want to see." Most of the caves consisted of a single rather spacious room with walls and ceiling blackened by the smoke from fires. We were told that these caverns were first dug for use as powder-houses in the late 1870s when the lead and zinc mines of Darwin were opened. Later, after they were abandoned as store houses, peniless miners and prospectors appropriated them as rent-free living quarters when a fire swept through the shack-houses of Darwin and left them homeless. All through the subsequent years there has never been a time when some of the dug-outs have not been occupied. Some of the men who moved in were transients but others made their home there for years. They found the caverns cool in summer, warm and dry in winter and, best of all, there never was a landlord around to collect rents. Euphonious and colorful names identified the men who through the years have occupied the dugouts —

Copper Stain Jack, Burro Bill Jones, Johnny McDonald and Mickey Sommers. And then of course there were the itinerants, "one of them a man named Carrigan who ran for Supervisor against Charlie Brown, his platform being: 'a paved road to the cemetery.'"

Some of the underground dwellings we found furnished with beds, tables and stove; one even had a sewing machine, a phonograph, a banjo, and a caged canary bird. Others were badly kept with collections of wooden packing cases, iron cots with soiled mattresses and smoked, greasy bedding and shelves cluttered with playing cards, dominoes and dusty mineral specimens. Regardless of furnishings, they made homes of sorts for the men who occupied them.

In front of each door was an enormous accumulation of refuse of every sort. It seemed to be a case of opening the door and throwing the trash just far enough to keep it from interfering with entrance and exit. Beyond the area of kitchen middens was the zone of empty cans, bottles, old shoes, and thrown-away clothes; then came the useless auto parts, broken down rusty cars and rejected mineral specimens.

A roving band of burros frequented the place and served, along with stray dogs, as a sanitary squad by day. Cats, occasional skunks and coyotes acted as the sanitary night patrol. Said one of the troglodytes: "Those burros will eat every sort of edible refuse from coffee grounds to potato peelings and cabbage leaves. They keep things from getting smelly around here. Peculiarly, they'll never touch an onion and refuse even to smell a canned bean."

Of men we visited in Darwin that day, one of the most extraordinary was old bald-headed George Clapp, a prospector-Scotsman who still talked the polite language of his kinsmen. He said he had lived in the caves off and on since Darwin's early days. A long time he was away prospecting in Alaska. We judged he had a fair amount of education for one of his frequent boasts was that he had read about everything Sir Walter Scott ever wrote, from *Ivanhoe* to *Lady of the Lake*. He took us inside his half-dark quarters and, pulling aside a burlap curtain, surprised us by pointing to an improvised bookcase of boxes where an almost complete set of the Waverly novels was neatly arranged.

"And I've walked too, Mister, along the banks of the River Nith where Bobby Burns did his courtin' and I've been in the tavern where he drank his ale, too!"

Frequent quotations from the Bard of Scotland's poems made us aware that here was no ordinary man. We stayed for more than an hour while he told of his experiences in the mines, of his travels and trials. As we were about to say goodbye, he said he believed he had something any botanist would surely want to see. Going back inside he searched out a dried plant specimen the Indians had brought to him from the nearby mountains. I recognized it at once as the rare Rixford Rockwort (*Scopulophila Rixfordii*), a plant I had long known but had never seen.

"This small many stemmed plant grows in limestone crevices of the Inyo Mountains," said Mr. Clapp. "Here at the base of the many stems coming from the woody root-crown you see this strange walnut-sized tuft of dense white fibers. It is this cottony mass which Paiute Indians long ago found was very useful in staunching the flow of blood from wounds. It makes the blood clot quickly. I've tried it more than once. It really works."

Oliver Thorson, Darwin's present postmaster, tells me that George died only a few months ago.

Another cave-dweller was Jack Stuart, like George Clapp a quoter of poetry, who was said to own a collection of old manuscripts. One of the present day troglodytes is a man named Bob Perry who likes to tell of Darwin's past and the history of the desert's old mines such as the Cerro Gordo, the Josephine, and Christmas Gift. He recites the days when Darwin had a population of nearly 6000 (three-fourths of them Mexicans) while Los Angeles had only 1500 voters. In those early days he said there were lots of Indians around, too, while now only a few live in little shacks at the town's south end.

With such interesting people to meet do you wonder that I always stop a while at Darwin when on my way to the Death Valley area? It's a side trip of only a few miles off the main highway, but a rewarding experience always awaits me there. The troglodytes can tell you much you'd like to know.

Prizes for Photographers . . .

Winter and spring—the crest of the desert season. These are the times when photographers comb the desert's beauty for that one unusual shot, that one glorious snap that captures all the mystery, grandeur, and freedom of the great Southwestern deserts. The unusual scene, the unique formation, the ghost town, mine, human interest, and animal shots are all potential winners in Desert Magazine's black-and-white Picture-of-the-month Contest. Yours could win the March competition.

Entries for the March contest must be in the Desert Magazine office, Palm Desert, California, by March 20, and the winning prints will appear in the May issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA



Photograph courtesy Washington State Progress Commission.

UNPOSSESSED

By AMY VIAU
Santa Ana, California

"The desert is ours" the moonbeams said
And over its face their silver spread.
But a gay wind laughed as it arose
And blew sand over the moonbeams' toes.

"You moonbeams with the desert can have
no day,
While I," he bragged, "can go or stay,
So the desert is mine." But the smoke tree
said
"I'm the desert's child, so she's mine, in-
stead"
And daintily her white crest stirred
As the near-by cactus' voice was heard.

"It would seem by the cacti in her lap,
The desert is ours." Then from his nap
A stately mountain aroused to call
"My friends, the desert belongs to all.

"To the sun and moon, the air and earth,
To the silence and to things she has given
birth;
She is yours and mine" and in solitude
Again the tall, old mountain stood.
While stillness mantled the moonbeams'
hair
The desert's face shone wondrous fair.

DESERT SCENE

By B. R. BRADLEY
Tempiute, Nevada

Before me a canvas clean and white
Quickly I paint in the evening light.
Dip lightly my brush in the faded blue
To sketch in the distant mountain view.

I blend vermilion, ochre and green.
I brush in the coppery desert sheen.
Yes, I've put down truly the colors there,
But how can I paint the sage scented air?

I've failed to show the wafting breeze,
Or the powdery dust on the Juniper trees.
No canvas nor paint can quite portray
How the desert can steal one's heart away!

Along A Desert Road

By HELENA RIDGWAY STONE
Santa Barbara, California

An asphalt roadway ribbons into distance
Across a mesa of exotic bloom,
Where ghost flowers tilt their satin faces
To catch a whiff of desert-fresh perfume.

This is a land of thorny, eerie cacti—
Of Spanish dagger, and golden prickly pear;
Of giant staghorn with its spiny antlers,
And yucca blossoms, taper-tall, and fair.

Here stretch the trailing stems of sand-
verbena,

Blending its color with the drab mesquite,
Carpeting the ground where spring bisnaga
Displays its yellow flower in gay conceit.

And lest this vivid picture fade at sundown,
When evening brings its violet shadows on,
God planted here, and there, a desert candle
To shine and shine until outshone by dawn.

Fate

By TANYA SOUTH

The Hand of Fate is everywhere.
I breathe a prayer and Fate is there.
I give a sudden gasp of pain,
And see Fate standing close again.

I look in eyes that love me not,
And know that Fate this hatred
wrought.
I lift my heart unto the stars,
And know Fate is both prison bars

And high ambition that I gleam:
Alike my labor and my dream,
My punishment, reward or dole—
For Fate is but my inmost soul.

ACROSTIC

By DARRELL A. TOTTEN
Las Vegas, Nevada

To some, that desert wind must seem
Half-human, with an urge to kill.
Although it cannot plan or scheme,
That sand it blows was once a hill.

Deserted cities show how wind and sand
Erase the work of skillful human hand.
Slowly, that desert wind will even claim
Each gravestone, and erase the greatest
name.
Reshaping hills and dunes, year after year,
That desert wind bows not to time nor fear.

We cannot see the ages past,
In which high mountains shrank to hill,
Nor can we see those hills, at last,
Digested by the wind's great mills.

DESERT TIPPLERS

By MADELEINE FOUCHAUX
Los Angeles, California

Hoary, unshaven natives of the land,
The bristly cacti squat upon the sand,
Sullenly waiting out the dusty hours
Till time for soaking up the winter showers.

Then, drunk on rain, they dress their
scratchy stubble
With garlands fragile as a colored bubble,
Becoming strangely beautiful thereby—
These tipsy grandpas with their wreaths
awry.

TURQUOISE MINE

By ALICE BULLOCK
Sante Fe, New Mexico

Oh, thou Goddess of the Rainbow
For whom Sky God broke his heart
Knowing mountains hid the pieces
It is there that mining starts.

Shards of His great heart the turquoise
Hidden deep in butted breast
There man goes when he would find it
To grace the woman he loves best.

PICTURES OF THE MONTH



Daughters of New Mexico

Harry Harpster, Jr., of Salt Lake City, caught three expressions on these youngsters, in this photograph taken outside Sante Fe, New Mexico. He won first prize in the January Picture-of-the-Month; took the picture with a 4x5 Graphic camera, at 1/100 second at f. 16, Plus X film; processed in Microdol and Dektol, on Kodabromide.



Old West

"Movie street," as known to the people of Sedona, Arizona, lies among the red rocks after a day of active "shooting." L. D. Schooler of Blythe, California, received second prize in the January contest. Photograph was taken with Zeiss Ikon 6.3/75 mm. lens, f. 16 at 1/50 sec., with 25A filter, Kodak Plus X film; developed 20 minutes in Kodak Microdol at 68° F.; printed on Varigam paper, No. 9 filter, developed in Kodak Dektol.

LETTERS

Streaks of Uranium . . .

Desert: Monrovia, California

According to the article on Uranium in your magazine ("They're Finding Paydirt on the Colorado Plateau," *Desert*, January, 1955) one of the next issues should carry a story about a rich find by Photographer Esther Henderson. Miss Henderson's cover picture on that issue shows sandstone, brightly colored, with yellow streaks above the trio of Indian girls. Looks to me like a perfect spot to prospect.

ROSS H. PORTER

Badwater Still Bad . . .

Desert: San Gabriel, California

I see by the cover page of *Desert Magazine* for February that Smiley and Josef Muench have discovered that Badwater is now potable, although the donkey is still skeptical. What hath Man wrought!

LLOYD YOST

Desert: Reseda, California

I have just been perusing *Desert* for February, 1955, and am rather taken back by the description of the cover.

I think I know Death Valley pretty well, having made many, many trips into the area, therefore have no hesitancy in identifying the spot where Badwater Bill is drinking as being Badwater. Such being the case, Bill must have a copper-lined stomach, as any living human being who drank at Badwater would certainly not enjoy what went down his throat. There may be other places in Death Valley where there are pools of that size which contain fresh water, but if so I have failed thus far to encounter them.

My objection to the caption . . . is that it is going to give some people the idea that they can drink at the pools in Death Valley with impunity, which is not the case; not that it would kill them, but they would certainly have some unpleasant minutes, and possibly hours, until the effect of the water had passed off. Am I right?

ARTHUR C. DAVIS

Badwater Bill merely was trying to prove that he came by his nickname honestly. It made a good picture, but I share your doubt as to whether Bill actually drank any of that water. Hardrock Shorty once remarked, "it looks like water, runs like water, smells kinda funny, and tastes like hell!"—R.H.

Killing for Fun . . .

Desert: Altadena, California

Last week while we were camped at the mouth of a mountain creek near Hesperia, we encountered a family—parents and four children, ages about six to 14 years—which spent its spare time shooting our desert friends: birds, squirrels, chipmunks, etc. All were expert shots.

My husband and our two children were target practicing across a creek bed when the family came up the creek. Right before the eyes of my children they shot a bird out of a tree and boasted that this was the fifth bird. We were terribly upset.

Later, as we were eating our evening meal in our trailer, we heard much shouting at their camp. I looked out the window to see the children dashing for their guns and immediately start shooting at something in the tree. After several shots, an object dropped from the tree with a thud—it was a squirrel.

My family was in tears to see this wanton shooting of our desert friends. My husband went to their camp to explain that people played with and fed these desert creatures all summer long and that when a friendly squirrel comes out for a handout it should not be met with death.

People should be on the lookout for such families as this one. They are not welcome in our wonderful desert country.

(MRS.) PAUL E. LOMBARD

Yearned to Explore Desert . . .

Desert: Perkinsville, Vermont

A friend with the intention of helping me while away the monotonous hours of a slow convalescence after eight month's illness brought me a carton packed with old copies of *Desert*, ranging from 1940 to 1950. Although I was born and have always lived among the Green Mountains of Vermont, I've always had a yearning to see and explore the American Southwest. At 60-odd years of age with my legs worn out and my finances in much the same condition, I see no prospects of ever realizing my dreams. So far I've browsed as far as 1945, though browsing isn't the right term, for I've read each issue from cover to cover, including much of the advertising.

I would enjoy corresponding with a few of your contributors provided any of them have time for such. In that way I might be able to get the feel of the desert even though I can't see it in person. In return I could tell something of Vermont's scenery, geography, geology and mineral resources. Since

our family has grown our principal recreation has been the exploration, by the beach-wagon-camping method of as much of Vermont's back road territory as we could cover in our spare time. A few years ago I took up the study of geology, paleontology, minerals, etc., as a winter evening hobby. Although I am but a rank amateur this spare time reading has paid dividends in the interest it has added to our gypsy style ramblings.

HAROLD PATCH
Branch Brook Road

From a Desert Lover . . .

Desert: Gainesville, Florida

I was very interested in "Just Between You and Me" in the December issue of *Desert Magazine* and Editor Randall Henderson's stand against a new naval gunnery range in Saline Valley, Inyo County, California. For a long time I have loved the great West with aching homesickness and have deplored the withdrawal of one area after another.

Uranium mining, too, has spoiled some of my enjoyment of the outdoors. In hunting around the country for rock and mineral specimens, I find I am apt to be barred from some private property just because the owner hopes someday to discover uranium there, though there's not the remotest chance. Areas where uranium is being mined are of course out of the question. Caretakers take one look at my innocent collecting bag and are immediately suspicious.

HELEN WRIGHT

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MAPS

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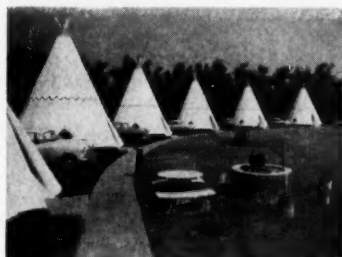
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Blanding, Utah

There'll be a gorgeous wildflower display on the Desert in March this year.

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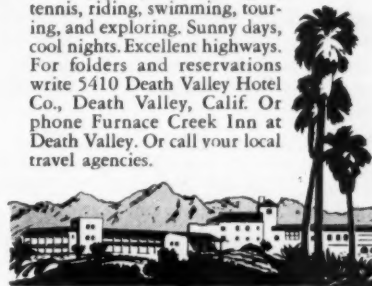
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Best Wildflowers in Years Due Following Heavy January Rains

When Jack Whitehouse, the new Associate Editor of *Desert Magazine*, was first officially introduced to the desert, he was a B-26 pilot based at Yuma Army Air Field during World War II—just as unhappy with his fate as thousands of others at the time. As he continued to live in the desert and fly over its broad beauty, he learned to appreciate it as so many others have. Later he was transferred to another desert base to fly B-17s at Hobbs Army Air Field, New Mexico.

Returned to civilian life at the conclusion of the war, Whitehouse completed his schooling at U.C.L.A. and put in a number of years with Los Angeles newspapers, publishing small magazines for various groups as a sideline. For two years he worked in the public relations office at U.C.L.A. and then found his opportunity to return to the desert.

Packing up his wife Nancy, an active librarian in her own right, he left the metropolis for a position as public information director at the Army's desert proving grounds, Yuma Test Station, the nation's largest military installation. Later he became the managing editor of the *Sun Newspapers* of Yuma, Arizona, a position he held just prior to coming with *Desert*.

Mr. Whitehouse has long been afflicted with one of the occupational hazards of desert dwelling, becoming a rockhound while at Los Angeles High School and studying geology at the Principia College, Elmhurst, Illinois, before the war.

Richard H. Dillon, author of this month's "Adolph Sutro's Coyote Hole," has a special interest in the Sutro Tunnel. He is librarian of the California State Library, Sutro Branch. As Dillon puts it: "Anything that Adolph Sutro did is of interest to me, since I am in charge of his library, now a San Francisco branch of the California State Library, Sacramento."

A member of the book review staffs of the *San Francisco Chronicle*, *America*, and the *Library Journal*, Dillon has recently done research and writing on Californiana and Western Americana. He has had articles published in numerous midwestern and western historical journals.

An honors graduate of the University of California, Author Dillon is a Purple Heart veteran of World War

March wildflowers should present one of the most beautiful displays seen on Southwestern deserts in recent years.

This is the consensus of *Desert's* wildflower experts reporting from many points throughout the region. Heavy January rains caused many dormant seeds to germinate and sprouts were poking themselves through the desert floor by late January and early February. A sunny, warm February could add brilliance to the scheduled display, while a frosty month could do considerable damage to the wildflowers.

Fred W. Binnewies, superintendent of the Death Valley National Monument, reports that an unusual number of plants are sprouting and that flowers should begin to appear by the end of February. November, December, and January rains caused the plants to develop a little earlier than usual. Verbena, desert gold, fiddlenecks, five-spot apricot mallow, stickweed, phacelia, and evening primrose are the wildflowers which should bloom in Death Valley during March in a better-than-normal display.

At the Joshua Tree National Monument, California, Superintendent Samuel A. King, predicts that wildflowers will begin to bloom in March, reaching a peak during April and May with a better display than has been seen in many years. The Indian Cove, Pinto Basin, and Cottonwood Springs areas should find some 21 varieties of flow-

ers, having fought in Europe with the 79th Infantry and being wounded in the 7th Army campaign at Alsace-Lorraine in October, 1944.

Perhaps Marijane Morris' kinship to the Indians is derived from the slight amount of Indian blood that courses through her veins, for her father was of French and Indian ancestry. Mrs. Morris' records are loaded with American history. Her husband's grandfather was sent to Rexburg, Idaho, to build the community, later becoming the town's first constable; another relative was one of Brigham Young's wives.

Mrs. Morris, author of "Allan Houser: Apache Artist," in this issue of *Desert*, was born in Idaho, but now lives in Corinne, Utah, not far from Brigham and the eastern shore of the Great Salt Lake. There, with her husband and two small children, she finds life "interesting, exciting and stimulating."

ers in bloom in March, including brittle-bush, creosote, cheese-bush, bladder-pod, chuparosa, desert lavender, desert tobacco, clematis, checker fiddleneck, yellow tansey mustard, desert aster, Spanish needle, thamnosma, paper-bag bush, jojoba, desert wallflower, desert dandelion, rock-pea, range almond, alyssum, and barrel cactus.

California's Borrego State Park has a great many annual plants already well-started throughout the area, according to James B. Chaffee, park supervisor. An inch of rain in November and two inches in January, spreading over nine separate rainfalls, have brought the plants to early bloom. Already the chuparosa and desert lavender have started to bloom, as has the barrel cactus near the Borrego campground. With a little more rain and some sunshine in February, there is likelihood of an excellent wildflower display, Supervisor Chaffee believes.

O. L. Wallis, acting park naturalist at the Lake Mead National Recreation Area in Nevada, predicts that the wildflower displays in the desert this year will be much better than average. A considerable amount of rain and some snow has made the soil wet to some depth, without much loss by evaporation. Some cooler weather, however, could retard the blooming of many plants. Prospects for March appear unusually good, with beavertail cacti, sundrops, phacelia, sunrays, chicory, desert dandelions, poppies, stick-leaf, and Arizona lupines being the most abundant. Creosote bush, brittlebush, and desert willow, will also be colorful.

Recent good rains in the Casa Grande National Monument, Arizona, have paved the way for a good desert display during March, according to Superintendent A. T. Bicknell. By late January the weather was still too chilly for desert plant activity, but the normal sunshine in February should bring out poppies, mallow, and several varieties of cactus.

Another good display will be seen at the Saguaro National Monument, Arizona, Superintendent John G. Lewis believes. Rainfall in the desert and snow in the mountains was above average for the month of January, coming gradually and with little runoff. Soil conditions are favorable and with a few more spring showers the outlook is optimistic for an abundant wildflower exhibit at the Monument and in the Tucson area, he said.

Here and There on the Desert...

ARIZONA

Fort Yuma Shifted . . .

YUMA — The Fort Yuma Indian Reservation, located in southeastern California just north of Yuma, Arizona, has been transferred from jurisdiction of the Indian Bureau office at Sacramento, California, to the area office at Phoenix, Arizona. The move was made because of special ties which the Fort Yuma Quechan Indians have with other Indian groups on the Arizona side of the Colorado River. Indian population of the reservation which comprises 7800 acres, is just under 1000.

Administration Commended . . .

NAVAJO RESERVATION — In a resolution commending the Eisenhower administration's program for providing school facilities for reservation children, the Navajo Tribal Council declared that the for the "first time in American history since the Treaty of 1868 the Congress of the United States has taken effective action to provide adequate schools for Navajos." The Navajo emergency education program is designed to put every Navajo child of school age in school within two years.

Navajos Hold War Dance . . .

WINDOW ROCK—The war dance —never used since the Navajos signed a peace treaty with the United States in 1868—was due to be performed once again on January 24 to dramatize the Indians' fight for water supplies. The Navajo tribal council has ordered more than 2000 warriors and drummers in full ceremonial dress to participate in the sacred war dance. A Navajo Dam, to be built near the four corners of Utah, Arizona, Colorado, and New Mexico as a part of the Upper Colorado River Storage Project, would directly benefit 15,600 members of the tribe, according to Sam Akeah, chairman of the tribal council. The dance will be a warning, he said, that the water is vital to the Navajos' future and they are ready to do anything possible to protect it. —*Yuma Sun*

Mexican Cattle Admitted . . .

WASHINGTON — Control of an outbreak of foot and mouth disease has caused the Agriculture Department to end its 20-month ban on imports of Mexican cattle across the border. Cattle shipments resumed early this year. Cattle still must be dipped, but the disease is now considered eradicated.—*Alamogordo News*

Swan Numbers Cut . . .

YUMA — An estimated 375 rare whistling swans were alive in this country early in December. Today the number has been cut to 369—six birds closer to extinction. Four men at Yuma paid fines totaling \$600 for killing five of the whistling swans near Mitty Lake on the Colorado River. Another man was to face trial in Nogales in January on a charge of shooting one of five swans he saw on a pond.

Hopis Oppose Transfer . . .

KEAMS CANYON — The Hopis cannot participate yet with their white neighbors in county extension agricultural activities and therefore oppose transfer of their extension service from the Indian Office to the Department of Agriculture. This was the essence of a letter sent by the Hopi Tribal Council to Glenn L. Emmons, U. S. Commissioner of Indian Affairs. The Indian Office extension service presently aids the tribes with their farming and cattle-raising problems and is under the Interior Department.—*Phoenix Gazette*

Reprieve for Buffalo . . .

PHOENIX — Because one of the nation's last buffalo herds interferes with military operations at Fort Huachuca, near Nogales, the bulk of the herd was to be killed off in a special January hunt. Meanwhile, Arizona was considering a gift of 20 yearling heifers and three bulls to its southern neighbor, the Mexican state of Sonora. Request for the gift came from Sonora Governor Ignacio Soto. — *Phoenix Gazette*

Government Refuses . . .

PHOENIX — Pueblo Grande, an Indian ruin used by the City of Phoenix as an archeological center, will remain an operation of the city. The Phoenix City Council had asked the U.S. Department of the Interior to accept Pueblo Grande as a national monument, but learned that the government's policy is to encourage local participation in such activities.—*Phoenix Gazette*

Navajo Maps Available . . .

WASHINGTON—Map of an area including the Navajo Indian reservation area is now available, following completion of work by the U.S. Geological Survey. The map covers 33 quadrangles in northeastern Arizona at a scale of two inches to the mile. —*Yuma Sun*

COUNTY MAPS -- State of California

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WANTED: Arrowheads, perfect, to increase private collection. Approximate one inch long subject to approval. Ted Bennett, 41 N. Vermilion St., Danville, Illinois.

NAVAJO RUG REPAIRING — worn or damaged rugs re woven. Write: Arizona Weavers, 1702 West Earl Drive, Phoenix, Arizona.

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DEATH VALLEY ENCAMPMENT SET FOR NOVEMBER 10-13

Dates for the seventh annual encampment in Death Valley this year have been set for November 10 through 13 by the board of directors of Death Valley '49ers.

The encampment will include the usual campfires, community sings, tours of Death Valley, county exhibits, breakfasts featuring authors, artists, and photographers, and the famous Burro Flapjack contest.

Directors also announced that Dr. Theodore S. Palmer, only surviving member of the C. Hart Merriam expedition which surveyed Death Valley in 1891, had been named an honorary director.

Haverland New Director . . .

PHOENIX — Frederick M. Haverland was named the new area director for the Bureau of Indian Affairs at Phoenix, succeeding Ralph M. Gelvin, who passed away last September. Haverland, formerly assistant area director for the Bureau at Muskogee, Oklahoma, took over his new duties on January 17. In the Phoenix position he has charge of all Bureau activities in Arizona, Nevada, and Utah outside of the Navajo Reservation.

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CALIFORNIA

Hesperia Ready to Grow . . .

HESPERIA — Now preparing to spend some \$8,250,000 on development of Hesperia, California, is M. Penn Phillips, who last year was reported to have made the largest land tract purchase since the Wrigley interests purchased Catalina Island in 1919. Hesperia, located seven miles south of Victorville, is planned to include 1000 acres of industry, 8000 acres of agriculture, and a residential section numbering in the thousands of homes. — *Hesperia Gazette*

"Glass Bugs" Uncovered . . .

WASHINGTON—Vast numbers of glass bugs, fossilized insects, spiders, and mites of 25,000,000 years ago, are being recovered from ancient lake bottom deposits under the Mojave Desert. Found in limestone nodules about the size of walnuts, the creatures are in a state of perfect preservation. Almost invisibly minute, delicate hairs on the legs remain just as they were in life. The discovery opens up a whole hitherto unknown fauna, according to National Museum entomologists. — *Aztec Independent-Review*

Joshua Monument Popular . . .

TWENTYNINE PALMS—Amazing increases in the numbers of visitors have been recorded at the Joshua Tree National Monument, it is reported by Samuel King, superintendent. King said that during 1954 a total of 260,730 visitors were tallied. The 1953 figure was 172,423, while the monument's first year of 1950 saw only 72,671 visitors register.

Valley Park Planned . . .

LANCASTER—Work toward establishment of a local area as a state Joshua Tree Park was underway today as state officials were studying portions of Antelope Valley. The Indian Museum and surrounding area in the east portion of the Valley would be considered as a possible site for the state park. — *Lancaster Light*

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Rings Tell Snake's Age . . .

LOS ANGELES—Like the annual rings of a tree, growth rings in the bones of the rattlesnake tell how old he is, says Bayard Brattstrom, zoologist on the Los Angeles campus of the University of California. Each year the rattler deposits a new layer of calcium and other minerals in his bones. These layers can be identified and counted with the aid of a hand lens or low-power microscope. This is the only accurate method of telling a rattlesnake's age, Brattstrom says. Counting the number of rattles is guesswork, since a rattlesnake adds a rattle every time he sheds his skin, and this occurs several times a year when he is young. — *Aztec Independent-Review*

Quarantine Is Rugged . . .

BLYTHE — Nothing escapes the wary eye of California Agricultural Inspection station agents. It looked as though a Florida zoo would pass through the station unrestricted until the agent spotted something in cages of the monkeys and a boa constrictor—orange peels! Remove them or stay in Arizona, was the order. The howl set up by the monkeys at this action was deafening — the boa slept right through it. — *Palo Verde Valley Times*



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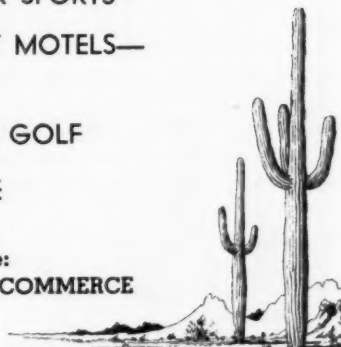
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WANTED: Arrowheads, perfect, to increase private collection. Approximate one inch long subject to approval. Ted Bennett, 41 N. Vermilion St., Danville, Illinois.

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DEATH VALLEY ENCAMPMENT SET FOR NOVEMBER 10-13

Dates for the seventh annual encampment in Death Valley this year have been set for November 10 through 13 by the board of directors of Death

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CALIFORNIA

Hesperia Ready to Grow . . .

HESPERIA — Now preparing to spend some \$8,250,000 on development of Hesperia, California, is M. Penn Phillips, who last year was re-

Rings Tell Snake's Age . . .

LOS ANGELES—Like the annual rings of a tree, growth rings in the bones of the rattlesnake tell how old he is, says Bayard Brattstrom, zoologist on the Los Angeles campus of the



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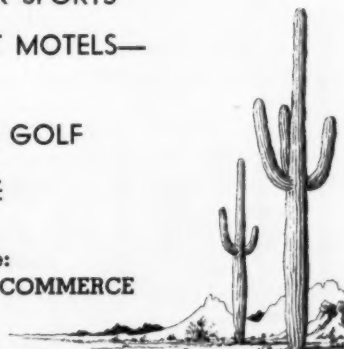
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Boundary to Be Defined . . .

SACRAMENTO—One of the first problems facing California and Arizona legislatures this year is that of defining the border between the two states. The boundary has been assumed to be the Colorado River, but this unsteady line has shifted often through the years. The joint California-Arizona Boundary Commission has recommended to both legislatures that the line be nailed down at the present course of the river.—*Desert Star*

Prohibit Holly Picking . . .

DEATH VALLEY—Destruction of desert holly is causing concern to Death Valley National Monument officials. Already scarce, the beautiful desert holly grows only in certain soil

types and at low elevations. It is protected by federal law, California state law, and Inyo County ordinance. Cooperation of visitors to the Monument is necessary to prevent the plant from becoming extinct, officials said. The same regulations prohibit cutting of any trees or greens on monument lands.

—*Tonopah Time-Bonanza*

Land Use Worries Farmers . . .

COACHELLA VALLEY—Riverside County ranchers have protested the continuing encroachment of residential and industrial areas on farm lands and have proposed a county zoning law to meet the situation. Farm spokesmen say the building boom has not been beneficial to them, since some are forced to either quit farming or move their farms to new areas.

NEVADA

Express Station Demolished . . .

PIOCHE—Last of the old Pony Express stations serving Nevada has been demolished, it was revealed by Nevada State Park Commissioner Thomas W. Miller. Commissioner Miller, who is seeking protection for Nevada's historic structures, said that the Pony Express station stood in a rancher's field in the lower end of Ruby Valley in White Pine County. It was one of 40 or more locations which the park commission had recommended for protection. Timber in the station was used by a leaser from California to build a cabin for himself, the commissioner said.—*Pioche Record*

Petrified Forest Vandalized . . .

GERLOCK—Sabotage of the virgin forest of petrified trees 150 miles north of Reno has been reported by Nevada State Park Chairman Thomas W. Miller to Governor Charles H. Russell.

Craters 30 feet in diameter and 10 to 15 feet deep gouged in the forest give evidence that bulldozers and other power machinery have uprooted petrified tree deposits. Miller had called upon Washoe County law officers to invoke the State Park law which makes it a misdemeanor "for any person or persons to commit vandalism upon any prehistoric sites, natural monuments, speleological sites and objects of antiquity or to write or paint or carve initials or words upon any of such objects, Indian paintings or historic buildings."—*Pioche Record*

Pupil Shortage Unique . . .

RENO—There may be a shortage of teachers in Nevada, but there is also a shortage of pupils in many areas. The Peabody survey team recently found that the vast majority of Nevada grade schools—150 of them—had less than 200 pupils, while 112 of these have fewer than 50 pupils. They recommended consolidation of some schools where transportation would permit and at the same time in overcrowded city schools they called for more classrooms and more teachers.—*Humboldt Star*

Cloud Seeding Begins . . .

ELKO—Cloud seeding is under way in six Nevada counties in a program that is due to extend through May, the Nevada cloud seeding committee has announced. The program, which began at the first of the year, is being conducted in Elko, Humboldt, Pershing, Eureka, Lander and White Pine counties. Strategically located silver iodide generators in the six-county region send heated iodide into the clouds as a nucleating agent. Cost of the program is said to be \$10,000.

TRUE OR FALSE

There are several ways to improve your acquaintance with the Great American Desert. One way is to travel and explore. Another is to read books. A third way is right here before your eyes—the Desert Quiz. You'll not get all the answers right. But the law of averages should give you a 50 percent score. Twelve to 15 is fair, 16 to 18 is good, 19 is an exceptionally high score—one that few people ever attain. The answers are on page 33.

- 1—Desert drivers should carry chains to put on their car wheels when driving through sand. True . . . False . . .
- 2—The Mojave River of California is a tributary of the Colorado. True . . . False . . .
- 3—The coyote is entirely a vegetarian. True . . . False . . .
- 4—An arrastre is a primitive mill for crushing ore. True . . . False . . .
- 5—Billy the Kid was a notorious outlaw in Nevada. True . . . False . . .
- 6—Cochiti is the name of any Indian Pueblo in New Mexico. True . . . False . . .
- 7—The book *Death Valley* in '49 was written by William Lewis Manly. True . . . False . . .
- 8—The only poisonous lizard found in the desert of the Southwest is the Gila Monster. True . . . False . . .
- 9—Wasatch Mountains may be seen on a clear day from Palm Springs, California. True . . . False . . .
- 10—Jacob's Lake in northern Arizona was named for Jacob Hamblin, Mormon missionary. True . . . False . . .
- 11—The Saguaro cactus withstands long periods of drouth by storing water in its roots. True . . . False . . .
- 12—Cactus furniture generally is made from the dead trunks of the Saguaro. True . . . False . . .
- 13—Ocotillo grows a new coat of leaves after a heavy rainfall regardless of the time of year. True . . . False . . .
- 14—Iceland spar is the name given to certain types of calcite crystals. True . . . False . . .
- 15—Pisgah volcanic crater is in Southern California. True . . . False . . .
- 16—The Desert Lily grows from a bulb. True . . . False . . .
- 17—Capitol Reef National Monument is in New Mexico. True . . . False . . .
- 18—Ocean water has a higher salt content than the water in the Great Salt Lake. True . . . False . . .
- 19—Shiprock, New Mexico, overlooks the Rio Grande River. True . . . False . . .
- 20—Monument Valley in Utah and Arizona is a National Monument under the jurisdiction of the U.S. Park Service. True . . . False . . .

Water, Map Changed by Quake . . .

DIXIE VALLEY—Warm springs and displaced land are some of the results found by geologists of the December 16 earthquake that rocked Nevada's isolated Dixie Valley area.

Termed "one of the most important quakes ever recorded in the United States" by University of Nevada earthquake expert Dr. David Slemmons, the quake has caused a stream to flow down the previously-arid valley floor and either shoved the mountains upward or dropped the valley floor several feet. Some mountain slopes dropped as much as 10 feet. Surveys of the quake zone are continuing.

NEW MEXICO

Crown Held Authentic . . .

SILVER CITY—Discovery of an authentic 18th or 19th Century silver crown was verified by Dr. Reginald Fisher of the Museum of New Mexico. Dr. Fisher said the person who showed it to him was very secretive and refused to say where he had found the crown, although the Silver City Press quoted the finders as saying it was uncovered within five miles of Silver City. It is described as a halo off a statue of the Virgin Mary. — *New Mexican*

Sands Adds Picnic Units . . .

WHITE SANDS NATIONAL MONUMENT—Installation of 16 new wood and metal picnic tables has been completed, it was announced by White Sands Superintendent Johnwill Faris. The vast increase in the number of picnic parties at the Sands prompted installation of the units, he explained. In 1954, 226,626 persons visited the Sands, compared with 48,417 in 1939. — *Alamogordo Daily News*

Carlsbad Attendance Declines . . .

CARLSBAD—Visitors to the Carlsbad Caverns in 1954 dropped at least 15 percent and something has to be done about it, according to C. B. Mayshark, state tourist director. Mayshark blames nation-wide publicity given "dust bowl" conditions in southeastern New Mexico and bad word-of-mouth publicity given the caverns because of inadequate elevator facilities. New elevators, doubling the rate visitors may enter the caverns, are slated to be put in use next June, he said. In addition, Mayshark plans a stepped-up advertising campaign to offset the bad publicity. — *New Mexican*

UTAH

Birds Disappearing . . .

SALT LAKE CITY—Mystery of the disappearing birds is being studied by the Utah Audubon Society following discovery that the bird population was

decreasing. There apparently are some 2000 fewer birds in Salt Lake City this winter than there were a year ago, when the count numbered 65,000. Recently some 33 members of the Society reported the bird population as 63,000 within a seven and one-half mile radius of the city. — *Salt Lake City Tribune*

Utah's Warmest Year . . .

VERNAL—Not only was 1954 Utah's warmest year on record, it was also one of the driest. The Utah winter was the driest such season since 1931 and the eighth driest since records began in 1892. — *Vernal Express*

Best Parks Year . . .

ZION NATIONAL PARK—National Parks and monuments in Utah and northern Arizona totalled more visitors in 1954 than in any previous year. So said Superintendent Paul R. Franke, coordinating and supervisory officer for Zion and Bryce Canyon National Parks, Capitol Reef, Cedar Breaks, Pipe Springs, and Zion National Monuments, who explained that only two areas showed decreases. Visitors to Zion National Park showed a 6.6 percent increase over 1953 with a total of 415,042. Bryce Canyon and Cedar Breaks were the two showing drop-offs. — *Salt Lake City Tribune*

20 More Dams . . .

DENVER—Approval of 20 new dams in the proposed Upper Colorado River Storage Project has been announced by the Upper Colorado River Commission, although opposition from Utah warned that it might defeat the whole project. Utah Commissioner George D. Clyde has argued that addition of the dams would bring the bill to 1,750,000 dollars, more than Congress has permitted before, and just might "break the camel's back." — *New Mexican*



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MINES and MINING

Salt Lake City, Utah . . .

Discovery of a rich uranium deposit at the Monument Valley Yazzie mine—an open pit operation—has been announced by Owen W. Bunker and Edward M. Mabey, executive vice presidents of the Spencer Uranium Corporation of Salt Lake City. The mine is located on the Navajo Indian reservation in northern Arizona, near the Vanadium Corporation of America's Monument No. 2 mine, said to be the richest uranium mine in the world. Carnotite ore—reading radiometrically more than 10 percent—was found just six feet below the surface. — *Dove Creek Press*

Albuquerque, New Mexico . . .

New Mexico may have a great future in uranium, in addition to its expanding oil and gas industry, but a complete revision of state leasing policy on public land is needed.

This is the opinion of Land Commissioner Johnny Walker, who is asking the Legislature to revise the laws governing mineral leasing on state land. The law allowing granting of one-year prospecting permits at \$25 per square mile should be changed to a five-year lease at a slightly higher price per acre, Walker said. Particularly valuable land would be leased to the highest bidder. — *New Mexican*

Salt Lake City, Utah . . .

Not for \$16,000,000 would Fletcher Bronson sell his fabulous Happy Jack uranium mine in southeastern Utah. The news had been reported that Bronson sold the mine for that price to Louis England of Casper, Wyoming, controller for the Mountain Mesa Uranium Company, but Bronson promptly denied the reports. He stated that as soon as a 200-foot drift is completed he would begin producing 35 to 60 tons of uranium ore per day. Happy Jack is located in White Canyon, San Juan County. — *Salt Lake Tribune*

Albuquerque, New Mexico

Permit to prospect on the Major Ranch in southwest Sandoval County has been granted the Anaconda Copper Company by Howard Major, Albuquerque. Major is said to have discovered two small outcrops of uranium on the 27,000-acre property. Anaconda is now conducting an extensive core drilling program. — *Mining Record*

Tonopah, Nevada . . .

Sale of the Golden Eagle uranium claims at Belmont to the U308 Corporation of Reno has been reported by Lloyd Sammons of Tonopah and Clay Holmes of Arcata, California. Sale price was listed at \$100,000. The new owners have outlined an extensive prospecting and development program in the eight-claim area. — *Pioche Record*

Reno, Nevada . . .

Earthquakes may have produced a major uranium strike in Nevada. When George Leingang of Reno noticed the needle on his scintillator fluctuating widely, he parked his car on Highway 40 and found the strike in a wide crack in a huge boulder, which had apparently been opened by one of Nevada's three earthquakes during 1954. He has located 25 claims in the area, with samples showing uranium content at .12 of one percent. — *Ely Record*

Tonopah, Nevada . . .

First shipper of uranium in Nevada is said to be Fred A. Vollmar, of Silver Peak, now developing the Rundberg uranium property at Austin. Vollmar's Uranium Mines, Inc., employs 10 men and is now pushing a tunnel along the vein. Autinite with torbernite are the chief radioactive minerals present. As development progresses, the mineral becomes higher in value. — *Tonopah Times-Bonanza*

Winnemucca, Nevada . . .

Comstock Uranium-Tungsten Corporation, of Elko, plans to develop a group of 39 uranium claims in the King River district, 70 miles north of Winnemucca. Comstock is also negotiating for uranium properties in the Contact area of Nevada. The company is now beginning production on chromite properties in Oregon and tungsten properties in the Eureka area of Nevada. — *Territorial Enterprise*

Salt Lake City, Utah . . .

"We can mine under the bull pasture if we don't bother the bulls."

So said Jim Downing, head of the Radiore Uranium Company, as he announced that his firm had made a deal with the S and S Cattle Company for mining in the Indian Creek District, San Juan County. Radiore had reported discovery of shipping grade uranium ore adjacent to the Dug Out Ranch, an S and S property, and wanted to drift under the pasture. — *Salt Lake Tribune*

Prescott, Arizona . . .

The famous Monte Cristo silver mine—discovered accidentally by two Mexicans in 1862—is due for increased activity. Judge Edward A. Ashurst, Wickenburg, is reported to have purchased the 62-claim property from Mahoney Gold Mine, Inc., for \$100,000 and has indicated that by June the mine's working force of 12 men will be increased to 100. Ore taken from the mine has yielded up to 20,000 ounces of silver per ton, Judge Ashurst said. It has one 1,100-foot shaft with levels at 100-foot intervals. Current production is 50 tons of ore daily. — *Mining Record*

Death Valley, California . . .

Reopening of lead and zinc properties at Darwin Mines of Anaconda Copper Mining Company, Darwin, Inyo County, California, appeared possible as new development work was under way early this year. Lead and zinc properties were shut down in February, 1944, when the price of lead dropped to 12 cents a pound. The price has since risen to about 15 cents a pound. It was not possible to determine when full scale operations would be resumed as small crews of 12 to 15 men worked on development headings, expecting to reach new ore veins and block out lead and zinc for future operation. — *Territorial Enterprise*

Albuquerque, New Mexico . . .

Exploration for oil, uranium, and other minerals is beginning on 116,000 acres of the San Diego Land Grant in the Jemez Mountains, following leasing of the land from the New Mexico Timber Co. Lamar Fleming, Jr., chairman of the board of Anderson, Clayton & Co., and W. Stuart Boyle, Houston oil man, signed the lease, agreeing to pay \$12,500 for prospecting rights, a bonus of \$150,000 and \$25,000 per year rent for 10 years. New Mexico Timber retains a royalty on uranium, a 12.5 percent overriding royalty on oil and gas, and five cents per ton royalty on sulphur. Sulphur has been mined on the land, while deposits of bauxite, tufa, pumice, and coal are also evident. — *New Mexican*

Bishop, California . . .

Now in operation is the new mill at the east edge of the Four-Mile flat along U.S. 50. Tungsten concentrates are being shipped from the mill to the Vanadium Corp. plant near Bishop, California. Construction of the mill started last summer at the site of the old Sand Springs stage station on ground bought from the Summit King Mines, Ltd., where water is available. Owners are John Olson and Fred Bennett, of Los Angeles. — *Fallon Standard*

RECORD RAINS NEEDED TO BRING RUNOFF TO NORMAL

With little water in storage due to below normal fall season precipitation the general water picture in the Great Basin, Colorado Basin, and Rio Grande Basin areas has been listed as bleak. Early January storms could lend some encouragement to the scene, but forecasters were requiring near-record rains to bring the water runoff up to the 10-year average.

In the great Basin, according to the U.S. Weather Bureau, below normal precipitation was general over most of the area between September and December. The Humboldt Basin, for instance, was lowest in the area with only 50 percent of normal rainfall. Water supply outlook for the Great Salt Lake Basin is for below-average runoff, with flows ranging from 50 percent to 79 percent of average. Sevier, Beaver, Humboldt, Truckee, Carson, Walker, Owens, and Mojave river basins could all expect below normal runoffs, the weather bureau believes.

Some lower valley areas in the Upper Colorado River Basin were among the few to report above average precipitation. These were the areas of Cisco and Utah, reporting 130 to 160 percent of normal. Above Cisco the water supply outlook is for nearly 95 percent of average. The supply is slightly below normal despite heavy rainfalls due to soil moisture conditions, the bureau reports. Green River and San Juan River basins can expect runoffs well below normal, forecasters said.

In the Lower Colorado River Basin, September to December precipitation was much below normal, in some areas dropping to as much as 50 percent of normal. In the Little Colorado River Basin the outlook was bleak with a runoff expected to be near the lowest on record. At the same time, the Gila River Basin was only slightly better, with the runoff also expected to be near the record low. Somewhat heavier rainfall over the Verde River will bring that runoff to 72 percent of the 10-year average.

EASTER SERVICE SET AT DEATH VALLEY

An Easter Sunrise Service on Sunday, April 10, will be held in Death Valley National Monument this year, according to Fred W. Binnewies, superintendent.

The non-denominational service will be held at the Sand Dunes in the north-central part of the Monument. The Rev. Warren Ost, a director of the National Council of the Churches of Christ, which assigns student ministers to areas of the national park system to hold services during the tourist season, will conduct the service.

Hard Rock Shorty of Death Valley



"Sure it gits hot here in summer," Hardrock Shorty was saying to dudes who were loitering in the shade of the lean-to porch in front of the Inferno store.

"They say ol' Satan makes 'em shovel coal down in hades, but that ain't nothing compared with muckin' rock up in one o' them mines in the Funeral Mountains in the middle o' July. Miners have to wear asbestos gloves tu keep from blisterin' their hands.

"Remember one summer it got so hot the old iron stove in the cook-shack melted down an' ran all over the floor. The boys wuz gripin' about havin' tu eat raw food. But ol' Pisgah Bill wuz

doin' the cookin' that summer, an' he told 'em not to worry — he didn't need a stove to cook with.

"An' Bill kept his word. He set a big pot o' them Mexican beans out in the sun an' in a few minutes they wuz boilin' over. He wuz gonna fry the bacon on a big rock, but jest then one o' them twistin' dust devils came along. Was a real hurricane, an' somewhere along the way it had picked up a couple o' them big Nevady jackrabbits. The sun'd cooked them jacks to a nice brown, and the wind dropped 'em right down by the cook-shack. Bill really served the boys a feast that night."

LINES DRAWN FOR BATTLE OVER ECHO PARK DAM SITE

SALT LAKE CITY—Opponents of a proposed dam in the Dinosaur National Monument in Colorado are gathering forces today, while the Utah Wildlife Federation is leading a move to prove that the dam will enhance rather than damage scenic and wildlife resources.

President Eisenhower last year endorsed the dam, called Echo Park, as part of the \$1,000,000,000 Colorado River Storage Project. Opposition to the dam is stronger than before, according to Fred M. Packard, executive secretary of the National Parks Association. Interior Secretary Douglas McKay announced that administration sponsorship of the dam will continue in the new Congress under the belief that conservation groups would not oppose the measure as strongly this year. But Packard assured that there had been no letup of the groups which opposed the dam as an invasion of a national park.

Meanwhile, the Utah Wildlife Federation began mailing out letters and booklets designed to refute information disseminated by opponents of the project. Herbert F. Smart, secretary of the Federation, said the information was being sent to 2,200 individuals who made protests against the project to congressional committees and to con-

servation groups. The letter states that Monument boundaries were extended subject to prior rights for power or irrigation and that there are no wildlife resources in the area which would be destroyed by the dam, but that it would add to wildlife resources as did the construction of Hoover Dam in creating Lake Meade.

TRUE OR FALSE ANSWERS

Questions are on page 30

- 1—False. Chains generally will get you into more trouble in sand.
- 2—False. The Mojave ends in a series of dry desert playas.
- 3—False. Coyotes also eat small animals and reptiles.
- 4—True.
- 5—False. Billy the Kid's outlaw career was in New Mexico.
- 6—True. 7—True. 8—True.
- 9—False. Wasatch Mountains are in Utah.
- 10—True.
- 11—False. Saguaro cactus stores its water mainly in its fluted trunk.
- 12—False. Cactus furniture generally is made with dead cholla stalks.
- 13—True. 14—True. 15—True.
- 16—True.
- 17—False. Capitol Reef is in Utah.
- 18—False. Salt Lake has a higher salt content.
- 19—False. Shiprock overlooks the San Juan River.
- 20—False. Monument Valley is in the Navajo Indian reservation.

AMATEUR GEM CUTTER

By LELANDE QUICK, Editor of The Lapidary Journal

Our mail regularly brings us complaints from customers of the dealers about dissatisfaction with purchases and in almost every instance the complaint is about opal. If we were a dealer we would not handle opal for several reasons. To have a representative stock we would have to have too much money invested in it. And it is not a material we would sell on a "satisfaction guaranteed" basis because we doubt if a purchase of opal was ever made from any dealer where satisfaction with the purchase was 100 percent, and rarely is it the fault of the dealer. We have known instance after instance where customers have purchased mineral specimens from a dealer with satisfaction for years—and then they bought some opal from him. Generally they were disappointed and they would write and tell us about it and vow they would never buy from that dealer again, etc. The dealer lost

a good customer, usually through no fault of his own but because of the ignorance of the customer.

Opal is the most popular gem material with the amateur gem cutter and it is the first stone he wants to cut because there is no stone he can show to amaze his friends that compares with a fine opal. But the average novice lapidary unreasonably expects a dealer to send him top notch opal for \$10.00. He has been paying \$5.00 a pound for good agate, and he thinks that is robbery, and now he is ready to plunge with a 10 dollar bill and really buy some "good stuff." So he gets his package and finds that it is maybe just a bare ounce of rather uninteresting looking chalk in which he sees a glint of fire here and there. If he keeps it, he usually goes to his grinders in a high dudgeon and if he is skilled and lucky he may come out of the experience with an opal about the size of his little finger nail, and nothing spectacular at that—but it is worth far more than \$10.00!

What the average cutter forgets is that he is not working with agate or petrified wood, of which there are millions of tons available. He is working with one of the precious stones of which hardly more than a hundred pounds is being mined in a whole year at the present time. Let us be optimistic and say that even a thousand pounds is being mined in a year. This gets into the hands of the wholesale dealers in Australia and if you think they are going to send it by the next airmail to the amateur lapidaries in America you are very naive indeed. The dealer is going to high grade the best material for the professional cutters who want the opal more eagerly than the rockhounds. What is left is divided into parcels by people who really know opal values. These parcels are usually sold to other dealers who often highgrade their own shipment and sell the rest to lesser dealers. The lesser dealers pardonably try to get a few good pieces for themselves and finally

the culls reach the average amateur who expects to come up with some fancy opals worth \$500 each out of a \$10.00 parcel. Friends—it can't be done. If you want good opal you will have to spend good money—lots of it.

We don't suppose that many amateurs have cut more opals than we have in our time and when we look over the lot we are compelled to be honest and admit that while they all look wonderful to us, there isn't one in the lot that would even be given display space in a first class jewelry store.

We happen to have one of the largest pieces of good opal in the country. It is rough polished and it weighs exactly a half pound. We acquired it years ago from an opal dealer in Australia who owed us a lot of money and couldn't get the funds out of the country at the time and so we settled for a large chunk of opal. Three-fourths of the piece is potch but there is a streak of first class fire opal running through the center of it that we estimate would yield about 500 carats of really fine stones. At a retail value of \$10.00 a carat that would bring \$5000 when the stones were cut and offered for sale—maybe.

In November we received a letter from an old time opal miner in Australia who has been in the gem hunting business there for about 60 years. He has been in the opal fields at Lightning Ridge for over a year and this is his first visit there since 1903. Mr. Batchelor writes that the field is the largest gem deposit on earth—160 miles long by about 50 miles wide and the whole area is covered with the finest agates and jaspers in the world—to which no one pays any attention. He advises that the method of mining opal is the most difficult and tedious work in the mining industry and the opal fields are the bleakest and driest place on the face of the earth. During the depression many miners were trying their luck in the fields but now there is great prosperity in Australia and miners are working in the construction camps and factories and running around with geiger counters.

We have been telling our friends for years that if they have a few thousand dollars they can forget about and forego interest, that they can triple their money in ten years by carefully buying and storing three things — opal, chrysocola and turquoise. Regardless of the quality bought today their money will be easily tripled in ten years with the crop of amateurs at that time because of the increasing scarcity of these three popular gem materials.

We believe that if a man picks a reputable dealer to begin with, and then accepts any parcel that is sent him with a broad mind, that regardless of what he thinks about the material he gets it will greatly appreciate in value in the next few years. Opal is a better buy than diamonds because diamonds are worth no more now than they were 40 years ago and they will be worth no more 40 years from now because the market is controlled. There is one thing to remember about diamonds—they are not scarce; they are the most plentiful of all the precious stones. Opal is getting scarcer every day in an uncontrolled market while the demand is increasing enormously. It is a precious stone and demands precious prices. Therefore approach your opal purchases with good sense and remember this—no matter how poor a stone you get from your purchase, the poorest opal we ever saw is at least as beautiful as the finest agate; and most of the time there is no comparison at all.



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GEMS and MINERALS

Gem, Mineral, Lapidary Units Elect Officers for New Season

Officers elected for 1955 by the Mineralogical Society of Utah were Stewart Romney, president, W. H. Koch, first vice president, Dr. Olivia McHugh, second vice president, W. Hugh Burnside, secretary, Mrs. Edna Johnson, treasurer, and Mrs. R. B. Stake, historian.

Glenn Hodson is to be president of the Evansville, Indiana, Lapidary Society for 1955. Dr. Glenn Black was elected vice president, with Ed Love as secretary, and Keyth Slater, treasurer. The Evansville group has just rounded out its second full year of existence. Highlight of the second year came when Evansville won first prize for its exhibit in the annual Hobby and Gift show held at the Indiana State Fair Grounds, Indianapolis.

Introduction of new officers of the San Fernando Valley Mineral and Gem Society, Inc., of California, was a highlight of the Society's December meeting. President Charles McCollough introduced Vice President Henry J. Hasbach, Secretary Evelyn Nelson, and Treasurer Sumner S. Smith. The Board of Directors includes Leo Molitor, Maurice Hebner, Pete Clapp, Elinor Waller, Ralph White, Hilton A. Stang, Fauness Wiegand, Lester Watson and Rae Whitlock.

President of the Long Beach, California, Mineral and Gem Society for 1955 is James Greene. Harvey Hawkins was elected vice president, while Marguerite Bunch was elected secretary and Frank Pyles, treasurer. Three new Board members are Carl Brenner, F. E. Hamilton, and M. P. Bennett.

Officers of the San Francisco Gem and Mineral Society, Inc., were installed at a banquet early in January. New officers are: E. F. Grapes, president; Henry Reinecke, vice president; Mrs. Wanda Stelter, secretary; Walter Eyestone, treasurer; Mrs. Virginia White, librarian; Frank Nelson, curator-field trips; and directors Miss Frances Bramhall, Chaplain E. T. May, Kenneth W. Hinkle, and Oscar Merwin.

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Elected for 1955 by the Wasatch Gem Society, Salt Lake City, Utah, were the following officers: Clyde Jones, president, Don Jordon, vice president, Mrs. W. T. Rogers, secretary, and Ken Stewart, treasurer. Four members of the board of directors elected were R. J. Paul, Doc Bennion, Mrs. Robbe, and W. T. Rogers.

Joseph Harbaugh is the new president of the Tacoma, Washington, Agate Club, with Cliff Messinger as vice president. Lottie Summers was elected secretary, Elsie Merdian will be treasurer, and William Summers is the new director. President Harbaugh has already made his appointments to the club's 20 committees.

New officers of the Delvers Gem and Mineral Society, Inc., of Bellflower, California, were elected at the Society's December meeting. President for 1955 is to be Amy McDaniel. Martin Henson was elected vice president, while Paul Whitney is secretary and Cleo Findley is treasurer.

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Officers of the San Jacinto-Hemet Rockhounds of Southern California were re-elected to serve another term at the club's January meeting. The officers are: Mrs. Edna Nichols, Hemet, president; Webster Parker, Riverside, vice president; Miss Katherine Kelly, Riverside, secretary-treasurer; and board members Mrs. Ethel Harwell, Mrs. Ruth Wagner, John Fett, and Len Harvey.

Compton Gem and Mineral Club, of Compton, California, has announced its officers for the coming year. Marge Wakeman was elected president, with Ed Wilson, vice president, Thelma Yandell, recording secretary, Rose Nelson, corresponding secretary, George Leach, treasurer, Merlyn Heddon, librarian, and Mayrose Backus, historian. A committee of five, including Dan Brock, Ida Coon, Ed Wilson, Don McClain, and Jim Carnahan, has been appointed to report on possible locations for the 1957 Federation Convention.

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ATTENTION ROCK COLLECTORS. It will pay you to visit the Ken-Dor Rock Roost. We buy, sell, or exchange mineral specimens. Visitors are always welcome. Ken-Dor Rock Roost, 419 Sutter, Modesto, California.

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OPALS AND SAPPHIRES rough, direct from Australia. Cutting opal, 1 ounce \$5, \$10, \$20, \$30 and \$60. Blue sapphires, 1 ounce \$10, \$30, and \$60. Star sapphires, 12 stones \$10, \$20, and \$30, etc. Post free and insured. Send international money order, bank draft. Australian Gem Trading Co., 49 Elizabeth St., Melbourne, Australia. Free list of all Australian stones rough and cut, 16 pp.

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GEMS A-PLenty: Beautiful baroque gems, large variety, tumble polished all over, \$10.00 for one pound (about 100 stones). 10 lbs. of top grade gemstone prepaid for \$7.00. Wholesale price to dealers on baroque gems and gemstone in the rough. Satisfaction guaranteed on every sale. San Fernando Valley Gem Co., 5905 Kester Ave., Van Nuys, Calif.

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WANTED: Jewelry and gems to be sold on consignment in my Colorado Gem Shop. Send information to: Robert E. Frazee, 328 N. Park Avenue, Valley Center, Kan.

TUMBLed and polished moss agates, 5c and 10c a piece or \$5.50 a pound. Moss agate slabs, 35c a square inch, post paid. Donald Handlos, P.O. Box 42, Richey, Montana.

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Fluorescence Valuable but Tricky Aid to Prospectors and Rockhounds

Fluorescence may be defined as the property possessed by many substances, both organic and inorganic, by which these substances are capable of absorbing invisible light (such as ultraviolet light) and converting it into a visible form. Such substances then glow with a brilliant cold light as long as they are subjected to the invisible light.

It is generally believed that the molecular structure of the substance plays an important part in the conversion of ultraviolet light to visible light. However, in many instances the phenomenon apparently is due to the presence of impurities or "activators." Iron, cobalt, nickel, copper, zinc, manganese, silver, tin, rubidium, antimony, thallium, lead, bismuth, uranium and samarium are common activators. Only one or more of these elements need be present in extremely small percentages in order to cause fluorescence in some minerals which would not otherwise fluoresce.

The action of activators is not completely understood. For instance, primary uranium minerals, such as pitchblende and carnotite, do not fluoresce, whereas most of the secondary uranium minerals fluoresce yellow green.

Most substances which fluoresce do so only as long as they are exposed to the required stimulating energy. However, a few substances continue to fluoresce for periods ranging from several seconds to hours, depending on the material, after the stimulating energy is shut off. This phenomenon is known as phosphorescence. Specimens must be examined with ultraviolet light in total darkness in order that maximum fluorescent and phosphorescent effects may be observed.

Studies have shown that the fluorescent color of a mineral may vary with the kind and quantity of trace elements, or activators, and also with the particular wave length of ultraviolet energy used. The wave length used is dependent upon the type of generating equipment used and on the filter employed to remove visible light.

Utilization of fluorescence of minerals has advanced with the development of various convenient sources of ultraviolet energy,

some of which are now available at reasonable cost. However, ultraviolet units, differ in the wave length they produce. This factor, as well as the fact that there are variations peculiar to particular minerals, is not always fully appreciated or understood. Thus some of the contradictory claims as to fluorescence of minerals are not surprising.

The use of fluorescence in mining has become very important with respect to scheelite (calcium tungstate). Powellite (calcium molybdate and calcium tungstate) fluoresces consistently but thus far powellite has not been found in sufficient quantity to constitute an ore of tungsten. The orange fluorescence of zircon (zirconium silicate) should aid in identifying it in sands and thus be a help in the search for zircon. Some diamonds fluoresce, but some do not, which limits the use of fluorescence in this field.

Scheelite, fortunately for the prospector, fluoresces more consistently than most minerals. The pale blue color is commonly designated as blue-white, or even white,

owing to the difficulty of determining accurately a particular shade of color. A relatively large area of scheelite will appear to be a lighter shade than small grains in a dark ground mass.

Fluorescence is not an unfailing method of identification of any mineral. It is an aid to attract attention to particular minerals which must be identified either by chemical analysis or recognition of diagnostic physical properties. With a little experience, most of the common fluorescing minerals can be recognized easily on sight.

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The Willits Gem and Mineral Club, of Willits, California, recently celebrated its first birthday. From its first meeting in a hired hotel room, the club has grown until it now has a permanent clubroom, well equipped for study of the lapidary arts. Membership now exceeds 40. Purpose of the club is to gain an increased knowledge of Mendocino County minerals and rocks.

The East Bay Gem and Mineral Festival, sponsored by the East Bay Mineral Society, Inc., Oakland, California, will be held Saturday and Sunday, March 26 and 27. A. A. (Del) Kenison is chairman of arrangements, Mrs. Marion Smyth is chairman of the reception committee, Betty and Norm

Lemkau are chairmen of the snack bar, Si and Ruth Edwards are chairmen of the silent auction, Ross Carpenter is in charge of the demonstrations, and Rex Hawkinson is general chairman of the exhibits.

Luau Queen Mrs. Lee Peltz flew to Los Angeles from Honolulu especially to prepare a Christmas Luau for the Los Angeles Lapidary Society in December. The meeting was one of the best attended of any in the history of the Society. Members ate spare ribs, baked fish, sweet potatoes with crushed pineapple, and tossed salad, while Hawaiian entertainers sang and danced for their enjoyment.

SAND COLLECTING NEW VISTA FOR GOLD HUNTER

I never could understand why people collected sand. The thin little vials looked the same to me whether they came from Florida or the coast of China. That, of course, was before a recent trip up the San Gabriel (California) Canyon. We had a new sluice box and the desire to find a few flakes of gold.

We did find our few flakes of gold and we also decided to take home the black sand caught in the bottom of the riffle to check it under the microscope.

This proved to be a valuable thought and has given us much pleasure. We were amazed at what we saw in the sand viewed under the scope: tiny perfect crystals of magnetite, one group of three crystals no bigger than the head of a pin, lovely little cinnamon colored garnets, little books of golden mica and grains of beautiful lavender rose quartz. We also found a quartz crystal no bigger than a grain of sand. There are larger specimens with magnetite crystals and garnet crystals in matrix—these about the size of a pea. There are also grains of a silvery white metal and quartz with green needles as inclusions. The gold was forgotten in this whole new world of sand.

Sorting a crystal you can't distinguish with the naked eye proved a very difficult task. We found that fine dental picks enabled us to separate a crystal from the other grains—if you can keep your hands steady enough. A slight tremor of the hand looks like an earthquake under the "scope" and the fact that left is right and right is left, adds up to a lot of confusion.

Now we have just one problem. We know how to show mineral specimens and we've read up on micro-mounts, but—how in the world do you display a grain of sand? (Condensed from an article by Verle Carnahan written for the Compton Gem and Mineral Club.)

The Mineralogical Society of Arizona celebrated its 19th anniversary recently with a birthday party. In January members of the Society hosted the Audubon Society from Tempe and presented a talk by Arthur L. Flagg, member of the MSOA and curator of the Mineral Museum, on the story of minerals.

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If you buy \$5 worth of **Basic Lapidary Supplies** from the following list. A \$10 purchase entitles you to buy 2 lbs. **Tin Oxide** at \$1.50 per lb. A \$25 purchase entitles you to buy 5 lbs. of **Tin Oxide**.

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100 grit	\$2.65	\$3.80	\$5.35	7.50	\$11.35
220 grit	2.95	3.95	5.90	8.25	12.50
320 grit	3.35	4.50	6.70	9.40	14.20
Shipping weight	2 lbs.	3 lbs.	5 lbs.	6 lbs.	9 lbs.

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2F (320), 3F (400)	.38	.57	.41	.32
Graded 400	1.09	.73	.57	.48
Graded 600	1.35	.94	.78	.69

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Available in 120, 150, 180, 220, 320 grits

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10" wide, 5 ft. long—2.00; 150-foot roll—39.77
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12" 2 for 1.65; 25 for 16.00

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CAMP CHEF'S HANDY HINTS FOR FIELD TRIP COOKING

The Chuck Wagon column in *Shop Notes and News*, San Diego Lapidary Society's monthly bulletin, offered camp chefs some culinary tips in a recent issue.

"Precut packaged cheese slices for sandwiches makes a hearty lunch. Dry milk comes in a pre-measured 3 quart package. Each package contains 3 foil wrapped envelopes and each envelope makes one quart of milk.

"One minute to mix, one to set, and in the middle of nowhere, your favorite pudding. No cooking required.

"Frozen fish sticks are good for a week-end trip. There are 10 to a package pre-cooked. Open and warm in a skillet over an outdoor campfire or camp stove.

"For those of you who eat early and are off to collect rocks, take a few extra minutes and make up your favorite stew. Place all the ingredients in a bag made of heavy aluminum foil and seal tight. Bury the individual foil wrapped servings in hot ashes from the early morning warm-up fire. On your return, dinner is ready. Pies can also be made in the same manner."

Clear cool days of December brought opportunity to Shadow Mountain Gem and Mineral Society, Palm Desert, California, for a desert field trip to Chuckawalla Springs. The area offers varieties of agate—nodules, turtle-shell and iris.

Plans for the annual gem show of the Benicia, California, Rock and Gem Club are now under way, according to Harold Lerch, reelected president for the third term recently. The show is to be held April 2 and 3 in Benicia at the Veteran's Memorial Building.

The Indiana Geology and Gem Society became a member of the Midwest Federation of Mineralogical and Geological Societies in 1954 and the Hoosiers named their monthly bulletin the "Geologem." Mrs. Mary Frances Sparks won the naming contest. These were some of the highlights members recalled as they looked back over a busy year.

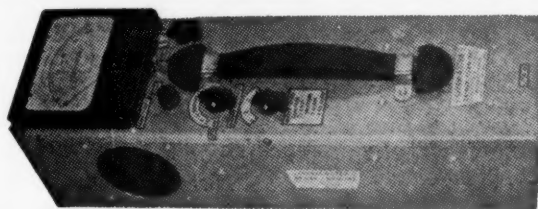


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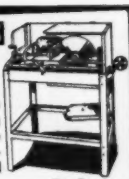


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DATES ANNOUNCED FOR CALIFORNIA ROCK MEET

July 8, 9 and 10 are the dates set for the 1955 International Gem and Mineral Exposition, sponsored by the San Francisco Gem and Mineral Society. Arrangements are now being made for accommodations with hotels, trailer camps, and even camping grounds.

Plans are well under way to fill the San Francisco Civic Auditorium with spectacular international exhibits, the best works of hobbyists and show of special interest to the geologist, mineralogist, and layman. Reservations can be made with Kenneth

Hinkle, 979 Hampshire, San Francisco 3, California.

Lectures, films, and field trips are being planned for all Federation Societies who are convening to commemorate their 16th Annual Convention of the California Federation of Mineralogical Societies.

• • •

Members of the Coachella Valley, California, Mineral Society returned from a field trip to the Turtle Mountains with the usual huge quantities of desert roses recently. Some of the agate found near the campgrounds looked interesting, they report, but lament the fact that there is not time enough to work up the stack of rocks. Another trip to Chuckawalla Springs produced some fine nodules.

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ESTONI GETS THE FACTS CONCERNING GEMSTONES

Jack Lund gave the Earth Science Club of Northern Illinois an interesting lecture on "Lore and Legends of Gemstones," recently. Said the club reporter:

"We learned among other things, that garnets are great imitators and occur in many colors besides red; that amethyst is quartz and was thought by the Greeks to be fragments of the statue of Amethyste; bloodstone is a chalcedonous quartz; aquamarine is a beryl and one of the first gems faceted; the diamond is the hardest material known but may be very fragile and splinter or crack if it has internal stresses; the emerald is metamorphic beryl; the United States has probably the finest fresh water pearls; there is no division between semi-precious and precious stones as the semi-precious can easily be a precious stone because of its rarity or appearance; the finest rubies stay in India as Americans will not pay the price; peridot is a true Olivine mineral; sardonyx is a chalcedonous quartz; the sapphire has the same composition as rubies; opals are very fragile and soaking in mineral oil will often stop cracking and restore brilliance; American turquoise is softer than Persian and will be discolored by grease and oil; and lapis lazuli is not a mineral but is a stone, a complex silicate containing sulphur."

From the Earth Science News of the Earth Science Club of Northern Illinois.

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GOLD TRAIL PICKED UP IN LOST MURIETTA CANYON

Thomas E. Maxey, president of the American Prospectors Club, Los Angeles, tells a lost gold story as follows:

"The other evening I had the pleasure of meeting Ed Hollyman, a prospector who specializes in the area surrounding Death Valley.

"Ed spends most of his weekends, vacations, and any other time he can get away searching for some ore he and his father once found. While they were out in the hills, they picked up five or six hundred pounds of a likely-looking rock, threw it in the back of their pickup and took it home to Murietta, California. They worked some of the ore by panning, but since there was no trace of color, forgot about it.

"Later a friend visited them and as he left for home, included among his samples a couple of pounds of the ore. Next weekend the friend returned, asking that they tell him where they had found the rock. Ed's father replied that they did not remember where they had found it.

"Their friend roasted the ore and had Ed pan some of it. At the tail of the pan there was a wide yellow streak: the ore was a sulphide. Then the excitement began. They tried to remember where they had been searching, but they had worked so many canyons within 50 to 75 miles of Murietta that they could not remember from which they had picked up the ore. Some of the ore was sent to three different assayers. As the reports came back they read 600 ounces of gold to the ton—better than \$20,000 per ton!

"That is why, when Ed gets a few days off, he heads for Murietta. Recently he was in one of the big canyons, found three pieces of float from the same vein, and now believes that he is on the right trail, although it will take him some time to work his way into the correct smaller canyon that runs into this big one.

"Anyone interested in going prospecting with Ed in the spring can write to the club and any mail will be forwarded."

Condensed from the *American Prospectors Journal*.

Jeanne Martin, FGA, vice president of the San Diego, California, Mineral and Gem Society in 1952 and 1953, has ac-

cepted a position as editor of the "Loupe," monthly magazine of the Gemological Institute of America, and associate editor of "Gems and Gemology," technical magazine of the Institute, published quarterly. Starting her rockhound career as a hobby, the San Diegan passed the British Gemological Association examination to receive her FGA in 1953 and later that year passed the Institute examination with the highest grade made to that date.

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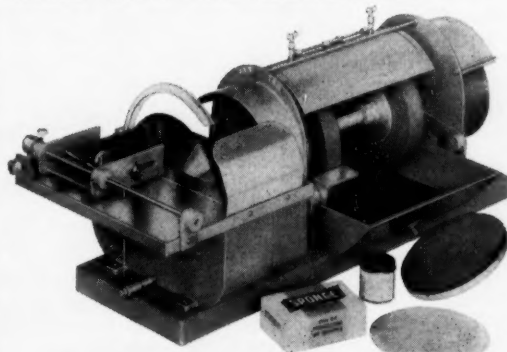
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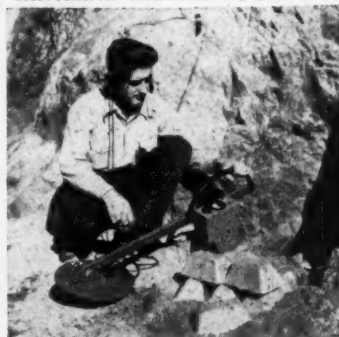
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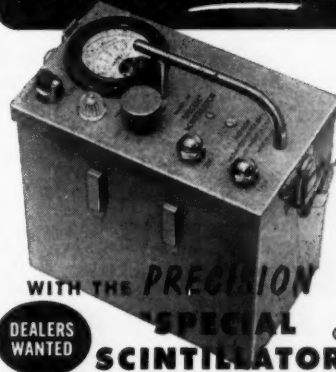
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By RANDALL HENDERSON

MY FRIEND, Dr. H. M. Weber of La Quinta, California, has taken up the crusade for the protection of all the wild dove species. At present they are classified as game birds in California, Arizona and 26 of the other states. In 20 states they are protected.

There may have been a time when doves were so plentiful they did serious crop damage. But most of my acquaintances among the farmers say this no longer is true. A majority of them regard the dove as friend rather than foe. And there is another large group which regards the hunters as more of a nuisance than the birds. Many of them have suffered serious damage from gun-toters who in their quest for game lose all sense of respect for the life and property of others.

I daresay that if the question was submitted to a popular vote public sentiment would be overwhelmingly for the protection of the birds.

* * *

This morning I read of the tragic death of Corporal Ira Hamilton Hayes, Pima Indian of Arizona, one of the six marines whose flag-raising deed on Iwo Jima during World War II has been immortalized by a bronze statue in Arlington National Cemetery.

According to the doctor's verdict, Corporal Hayes died on the Gila River reservation of over-exposure in freezing weather and too much alcohol. In the years of peace after his moment of glory on Mt. Suribachi the restless and bewildered Pima Indian sank to the depths of skid row.

The tragedy of Corporal Hayes is especially significant just now because of the radical departure from traditional policies which has taken place in the attitude of our federal government toward its Indian population.

Within the last 10 years Uncle Sam has embarked on a new policy, the ultimate goal of which is the extension of complete economic freedom to the Indians. This eventually would abolish reservation lines and grant to the tribesmen the same economic status enjoyed by all other American citizens.

But it is not an easy problem to solve. A majority of the western Indians are not ready for it yet. The Indian Bureau has been moving slowly, and in my opinion, wisely. Glenn L. Emmons is an able commissioner.

The difficulties are manifold. A few years ago the various groups organized to promote the welfare of the Indians were clamoring for more rights for the redman. They objected to restrictions which confined him to a reservation and made him a ward of the federal government.

But now that the federal government has embarked on a program of extending additional rights and opportunities to the Indian there's a new bogeyman. The government is being accused of "trying to exterminate the Indians" and of seeking to take his lands away from him and "give them to greedy white men."

All of which might have been a proper accusation in the early days of Indian administration 75 or 100 years ago, but is very unfair to the office of Commissioner Glenn Emmons today.

Actually a majority of the Indians do not want to be removed from federal custodianship yet. For they are aware that with the rights of full citizenship there also will be obligations—obligations to pay taxes, to earn a living without subsidy and to assume personal responsibility for contracts involved in property dealings. Not many Indians are ready for that yet—and the wise leaders among them know it.

The case of Corporal Hayes is extreme—but it is symbolic. A lowly reservation Indian, he became a hero overnight. When he returned from the war he was acclaimed and feted—and the sudden prosperity was too much for a human being only one generation removed from the primitive. We are all in the process of going through the evolution—from savagery to the enlightenment we call civilization. There are a lot of white folks who cannot take it either. Hollywood has furnished some tragic examples.

We want the Indians to enjoy all the political and economic privileges of full citizenship. But we must not try to hasten the process for Nature works slowly, and that applies to Human Nature also.

* * *

One of the most attractive shrubs in my dooryard is a creosote bush—just plain desert greasewood. It was there when we bought the lot for our home and we asked the graders and builders not to disturb it.

We pruned away the deadwood, but have never watered it. And yet it is twice as big and its deep green leaves have a brighter luster than any of the thousands of other native creosotes on our desert bajada.

At first I wondered why our larrea—that's what the botanists prefer to call it—was growing so much faster than its neighbors in the vacant lot across the street. But I should have known the answer, for the creosote sends its roots long distances in quest of moisture. The Chinese Elm and Carob trees 25 feet away are watered regularly—and the creosote merely was borrowing from its neighbors.

I wish some one would write a book about the adaptation and care of the native shrubs of the desert for domestic planting. I am sure that creosote, jojoba, encelia, desert holly, ocotillo and scores of others among the perennials as well as hundreds of flowering annuals could be domesticated. They would have all the beauty of imported domestic shrubs, and much more hardihood. If any readers of *Desert Magazine* have done experimenting along these lines I would like to hear from them. Perhaps we could pass the information along to other desert dwellers—and gradually compile the information for our own book on the subject.

BOOKS of the SOUTHWEST

STUDY OF "THE GREATEST HORSE THIEF IN HISTORY"

Walkara, Hawk of the Mountains was the title Paul Bailey chose for his study of the great Ute war chief. But Walkara (or Walker or Wah-ker) had other epithets as well, some of them not so savory. Besides "Hawk of the Mountains," he also was called "Napoleon of the Desert" and, by enraged Californians, "the greatest horse thief in history."

Of all the famous and infamous leaders in America's 100 years of Indian strife, few equalled the astonishing pattern of kindness and cupidity, nobility and cussedness achieved by Walkara. For 15 years he was lord and master of the great Southwest, an enigma to ranchers, a terror to trade caravans, bitter enemy — and sometimes generous friend—of the Mormons.

Paul Bailey is the first to biographize Walkara, and his book is carefully factual as well as exciting reading. He records Walkara's fighting forays, rancho raids and Indian slave traffic, his relationship to other men of history, including Pegleg Smith, James Beckworth, Brigham Young and James Bridger, and his pathetic and at times ludicrous efforts to channel his barbaric instincts into the pattern of a "good" Mormon brother.

Published by Westernlore Press, 185 pages, index, bibliography, 12 illustrations. \$4.00.

HISTORY OF SOUTHWEST TOLD IN NARRATIVE FORM

Paul I. Wellman has written an outstanding and powerful narrative history in *Glory, God and Gold*, second in the Mainstream of America series. It is the history of the Southwest, covering a period of 400 years.

The story begins with conquistadores led by Coronado leaving the colonial city of Compostela in New Spain (later to be called Mexico) in February, 1540. Their destination was Cibola where they had heard gold, emeralds and pearls could be found in the streets, and the doors of the houses were covered with jewels. Coronado's long and tortuous journey and what he found in the new world is vividly described.

Following the disappointing trek of Coronado came the long struggle between French, Spaniards and Americans to gain control of the new territory and its wealth. And ever present were the Indians waging war to hold

back the advance of the white man into their hunting grounds.

Those who played the leading roles in making up the history of the Southwest fill the chapters and are brought to life. Such men as Diaz, DeSoto, Cortez, Santa Ana, James Bowie, Davy Crockett, Kit Carson, Cochise, Wyatt Earp, Sam Houston, Mangas Colorado, Billy the Kid and Geronimo all played important roles.

Indian Wars, religious revolts, the Civil War, the story of Texas, its cattle and oil right up to the first Atomic Bomb explosion in New Mexico are covered in this fascinating and exciting story which Paul Wellman is well qualified to write.

Published by Doubleday & Co., 402 pages, illustrated with maps, list of books to read, \$6.00.

THE ROADS WERE ROUGH BUT THE PEOPLE FRIENDLY

Bill and Orv Wortman are experienced travelers and wherever they go, their cherished vehicle, "El Jeep" takes them. *Bouncing Down to Baja* tells in a lively, informative style, the story of their jeep trek to that fascinating Mexican peninsula south of California "where the roads are rough, but the people friendly."

Illustrated with photographs taken on the trip, this book shows how much fun it is to get to know the people of the land of manana. Equipped with a sense of humor and a Spanish dictionary, they separate the worthwhile experiences of jeep traveling from the tribulations of rough roads.

Everyone was friendly to them; many times they stayed overnight with families who had little or nothing to offer, but would share that.

The Wortmans observe many things as their jeep takes them over sometimes almost impassable roads. They relish the taste of a lemon, big as a head, that was given them after a particularly dusty stretch.

On the mainland, they found the ferries vagrant, as the river was crossed wherever lowest that day. Even "El Jeep" received a dunking in the river, but was pulled out cheerfully by a truck-load of "helpers." As Bill and Orv Wortman found out, "the people down here have not much to give, but they do give you their heart." Many more will want to try the trip to Baja after reading *Bouncing Down to Baja*.

Published by Westernlore Press. 26 Photographs; check-list of car equipment. \$3.75.

INDIAN LEGENDS REVEAL BELIEFS OF ANCIENTS

Retold by Efred Reveles, *Indian Campfire Tales* will delight all ages. As Billie P. Salgado, spokesman for the Cahuilla Band of Mission Indians of California, says in the foreword, "the result of Mr. Reveles' selection of Legends is an unusual crosscut view of early 'Amerindian' culture . . . he takes the reader with him to the remote sections of the local back country which he loves—and knows so well."

Efred Reveles is a forest ranger who has worked side by side with western tribe Indians, fighting fires in the San Bernardino National Forest and, liking the tales he heard the Indians tell, decided they should be preserved in their purest form.

One of the most popular is that of "Who Should Eat Whom"—the story of how the animals received their respective powers; the decision resting with Man, as decreed by the Great Spirit—and why the coyote is as cunning as he is. Another charming Legend is "Why the Sky Is High"—the tale of Pel-Agra, the very tall Indian with whom the child clouds played.

Whether read or told aloud by campfire, *Indian Campfire Tales* will capture the imagination and remain with the reader a long time.

Published by the Exposition Press, New York. 99 pages. 12 illustrations by Gonzalo Reveles and foreword by Billie P. Salgado. \$3.00.

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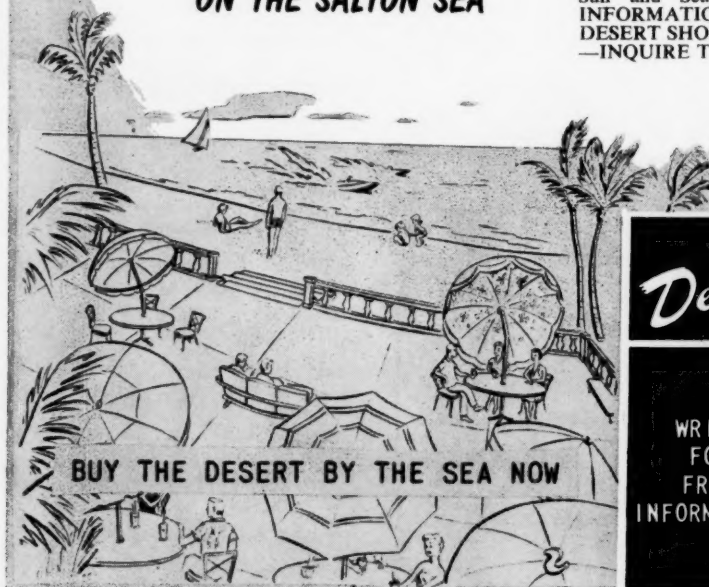
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